Mathematics

By a group of supervisors

PARENTS' GUIDE

Interactive E-learning Application

بتصريح وتحت إشراف
وزارة التربية والتعليم والتعليم الفني
MINISTRY OF EDUCATION AND TECHNICAL EDUCATION

3rd PRIMARY
SECOND TERM
2025

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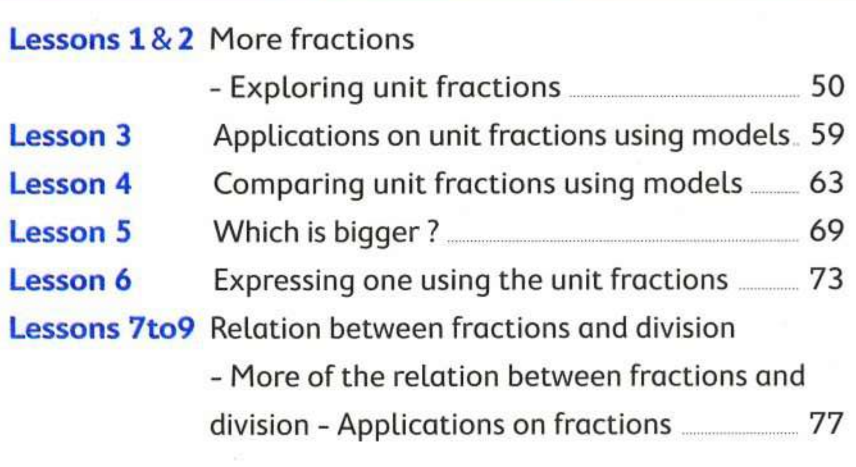

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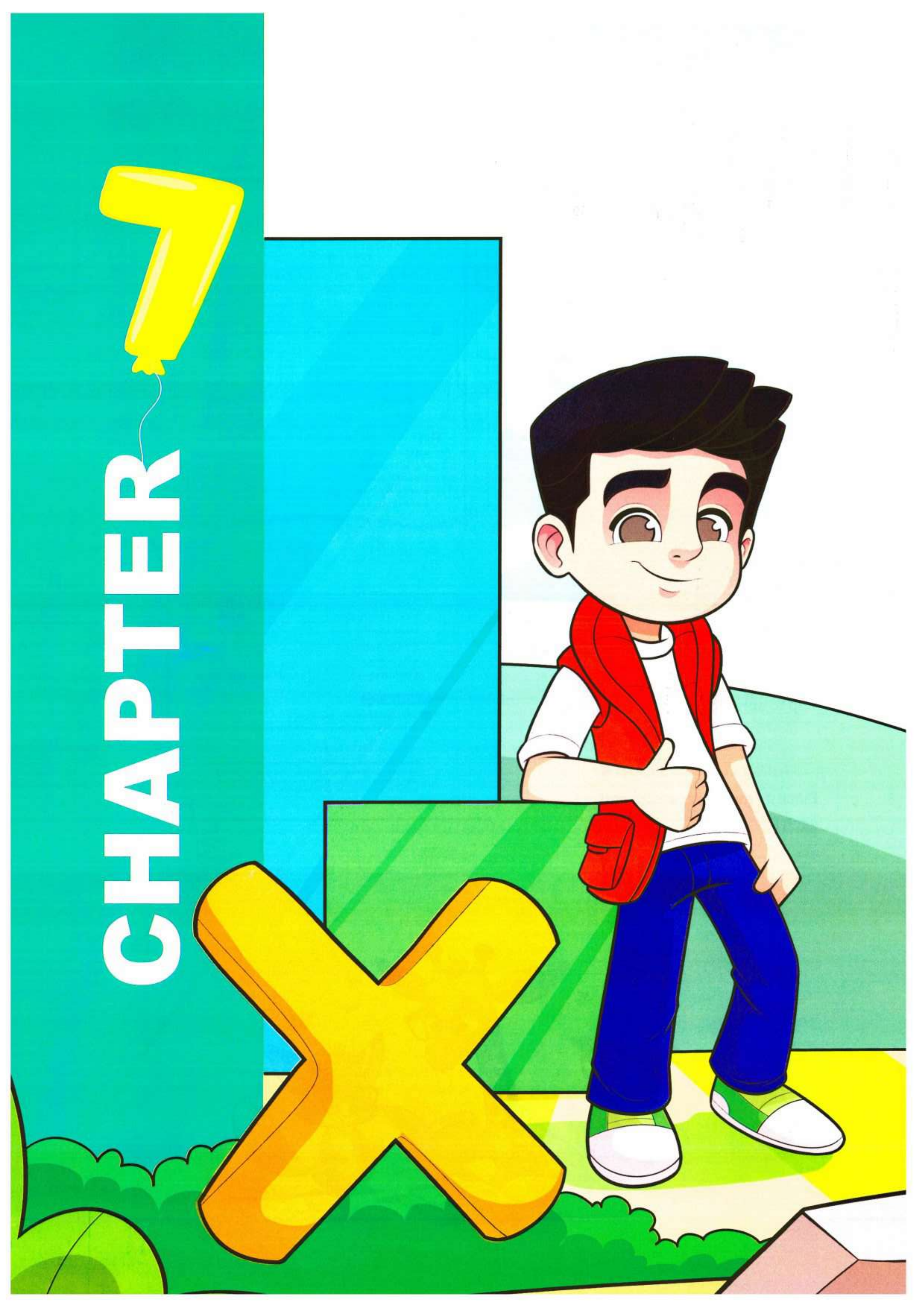

CHAPTER
7

Outcomes of chapter seven :

At the end of chapter seven, your child will be able to:

▶ **Lessons 1 & 2 :**

- **Associative property of multiplication**
- **Distributive property of multiplication**
- Explain the associative property of multiplication.
- Apply the associative property of multiplication to solve problems.
- Explain the distributive property of multiplication.
- Apply the distributive property of multiplication to solve problems.
- Collaborate to define math terminology in his/her own words.

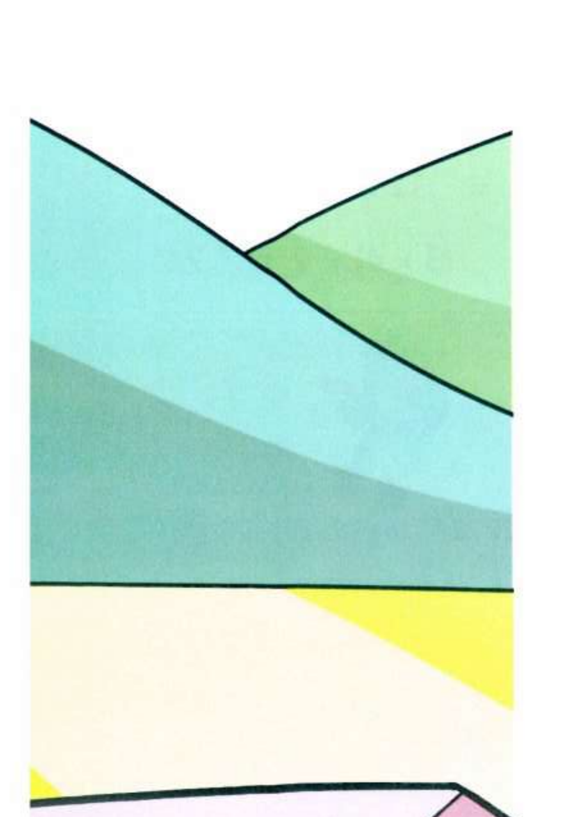
▶ **Lesson 3 :**

Estimating multiplication

- Apply strategies to estimate products.
- Apply properties and strategies to solve multiplication problems.
- Explain chosen problem-solving strategies.

▶ **Lessons 4 & 5 :**

- **Applications on multiplication and division**
- **Strategies for multiplication and division**
- Explain the relationship between multiplication and division.
- Solve multiplication and division problems with an unknown number.
- Explain how he/she can use the relationship between multiplication and division to solve problems.
- Identify a variety of multiplication and division problem-solving strategies.
- Apply more than one strategy to solve multiplication and division problems with an unknown number.
- Justify the use of preferred problem-solving strategies.



▶ **Lesson 6 :**

Perimeter of a square and a rectangle

- Solve perimeter problems involving an unknown side length.

▶ **Lessons 7 to 9 :**

- **Two-step story problems**
- **Strategies for solving two-step story problems**
- **Writing story problems**
- Solve two-step story problems involving addition, subtraction, multiplication, or division.
- Explain the strategies he/she use to solve complex story problems.
- Analyze solutions to two-step problems to identify and explain the errors made.
- Explain the benefits of error analysis in improving thinking and learning.
- Apply multiple strategies to solve two-step story problems.
- Justify problem solving strategies.
- Write two-step problems involving any operation.

Lessons 1 & 2

• Associative property of multiplication
• Distributive property of multiplication

Associative property of multiplication

- You can use associative property when you multiply 3 or more numbers, you can choose which 2 numbers you want to multiply first using parentheses.
- The Associative (grouping) Property of Multiplication says that you can change the grouping of the factors, and the product will be the same.

Example 1

Show three ways to find

Remember

Commutative property

$2 \times 4 = 4 \times 2$

First way :
Multiply 3 and 2 first.

$3 \times 2 \times 4$

$= (3 \times 2) \times 4$

$= 6 \times 4 = 24$

Second way :
Multiply 2 and 4 first.

$3 \times 2 \times 4$

$= 3 \times (2 \times 4)$

$= 3 \times 8 = 24$

Third way :
Change the order and multiply 3 and 4 first.

$3 \times 2 \times 4$

$= 3 \times 4 \times 2$

$= (3 \times 4) \times 2$

$= 12 \times 2 = 24$

$(3 \times 2) \times 4 = 3 \times (2 \times 4) = (3 \times 4) \times 2 = 24$

Math tip

To find 12 × 2 you can use :

- *Repeated addition* $12 \times 2 = 12 + 12 = 24$
- *Skip counting by 2s **12 times** :* 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24.

Use parentheses and show three ways to find 2 × 5 × 3.

$2 \times 5 \times 3$	$2 \times 5 \times 3$	$2 \times 5 \times 3$
= (____ × ____) × ____	= ______________	= ______________

Notes for parents

- Remind your child with commutative property of multiplication which says that "you can multiply in any order and the product will be the same".

Learn 2 Distributive property of multiplication

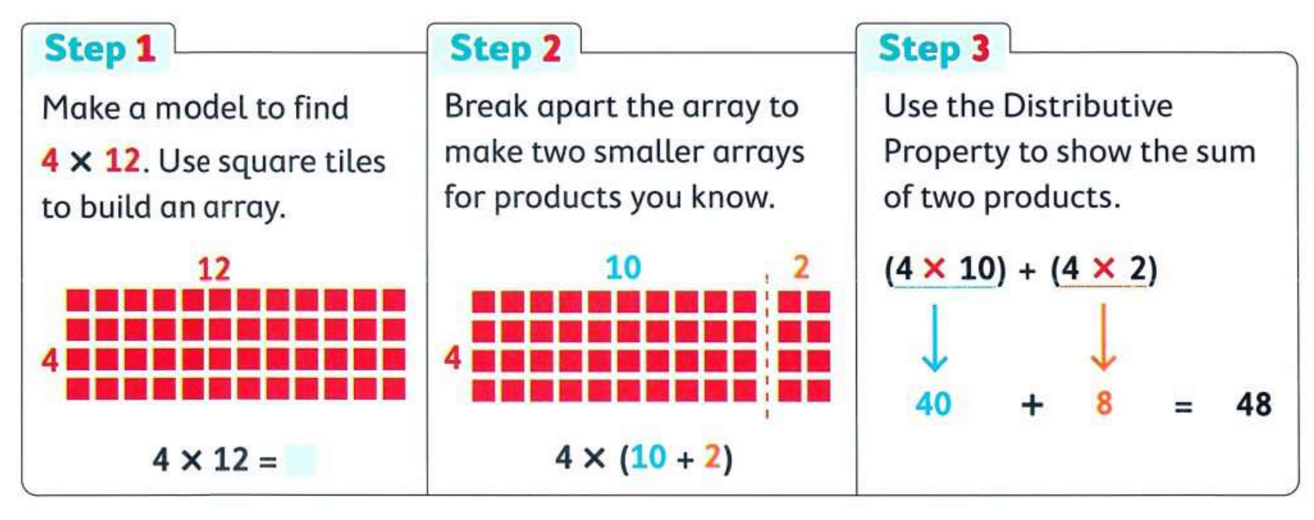
- Distributive property tells us we can divide "break apart" a multiplication problem into two or more smaller problems, then add together their products and get the final answer.

Example 2

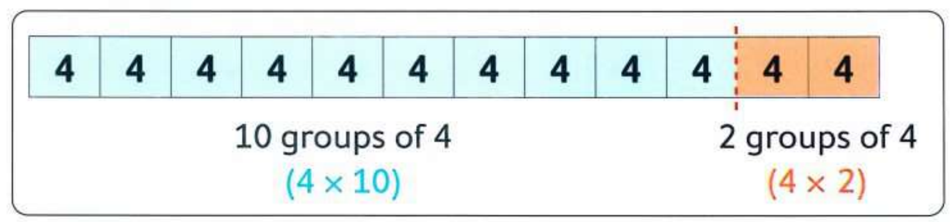
Multiply 4×12

There are more than one correct way to break apart.

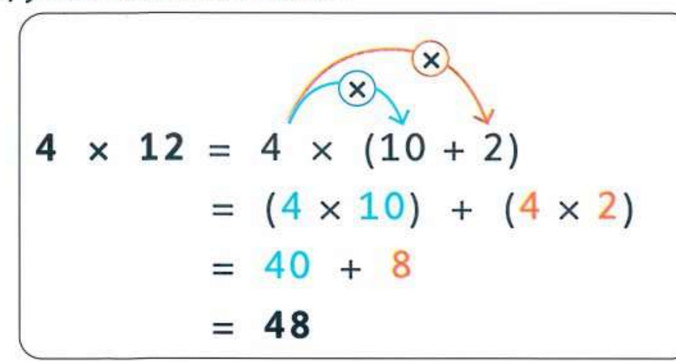
One Way: Using array

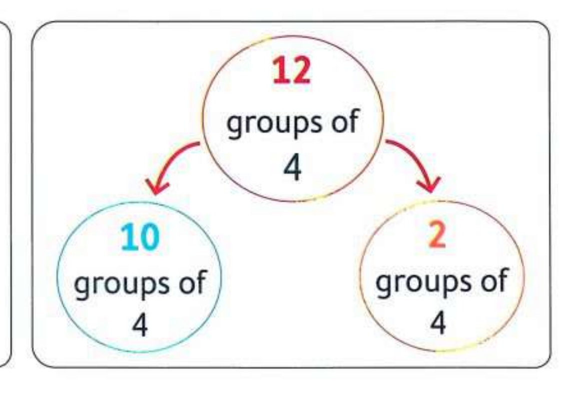


Other way : Using bar model



So, you can deduce that:



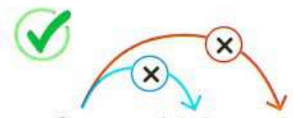


- Tell your child that he/she can use distributive property to solve problems that involve large numbers.

Example 3

Use the properties and mental math to multiply 8 × 12.

Solution ✓



- $8 \times 12 = 8 \times (10 + 2)$
  $= (8 \times 10) + (8 \times 2)$
  $= 80 + 16$
  $= 96$

Think : 12 = 10 + 2
Distributive property

- **By using bar model**

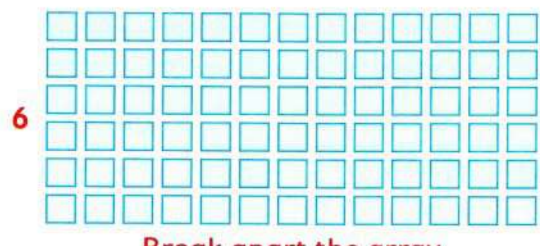
8	8	8	8	8	8	8	8	8	8	8	8

10 groups of 8 (8 × 10) | 2 groups of 8 (8 × 2)

$8 \times 12 = 8 \times 10 + 8 \times 2$
$= 80 + 16 = 96$

Check

Multiply 6 × 13



Break apart the array

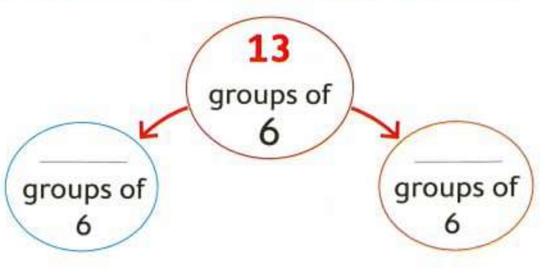
$6 \times 13 = 6 \times (____ + ____)$
$= (6 \times ____) + (6 \times ____)$
$= ____ + ____$
$= ____$

Break apart the bar model

6	6	6	6	6	6	6	6	6	6	6	6	6

Complete the model.

$6 \times 13 = 6 \times ____ + 6 \times ____$
$= ____ + ____$
$= ____$



Notes for parents

- Ask your child to show 7 × 11 using array and bar model and find the product.

Exercise 1

On Lessons 1&2

- **Associative property of multiplication**
- **Distributive property of multiplication**

From the school book

First : Exercises on Associative Property

1 Write a suitable number.

a. $(2 \times 1) \times 3 = 2 \times (1 \times ____)$	**b.** $(3 \times 2) \times 6 = ____ \times (2 \times 6)$
c. $(5 \times 2) \times 4 = (5 \times ____) \times 2$	**d.** $(4 \times 3) \times 1 = 4 \times (____ \times 3)$
e. $(3 \times 2) \times 3 = (3 \times 3) \times ____$	**f.** $(5 \times 1) \times 6 = (____ \times 1) \times 5$

2 Circle all the correct statements that have the same value.

a. $3 \times 2 \times 4$	**b.** $3 \times 1 \times 2$	**c.** $4 \times 2 \times 1$	**d.** $2 \times 5 \times 3$
$(3 \times 2) \times 4$	$3 \times (1 \times 2)$	$(4 + 2) + 1$	$2 + 5 + 3$
$3 \times (2 + 4)$	$(3 \times 1) \times 2$	$(4 \times 2) \times 1$	$(2 \times 5) + 3$
$(3 \times 4) \times 2$	$(3 \times 2) \times 1$	$(4 \times 1) \times 2$	$2 \times (5 \times 3)$
$3 \times (2 \times 4)$	$(3 + 1) \times 2$	$4 \times (2 \times 1)$	$(2 \times 3) \times 5$

3 Put (✓) to the correct statement or (✗) to the incorrect statement.

a. $4 \times 2 \times 5 = (4 \times 2) + 5$ ( )

b. $2 \times 6 \times 3 = 2 \times (6 \times 3)$ ( )

c. $(5 \times 4) \times 2 = 20 \times 2$ ( )

d. $3 \times (2 \times 3) = 3 \times 5 = 15$ ( )

e. $5 \times (4 \times 6) = (5 \times 4) \times 6$ ( )

4 Find each product. Tell another way to multiply using associative property.

a. 4 2 1

$(4 \times 2) \times 1$
$= ____ \times 1 = ____$

$4 \times (2 \times 1)$
$= 4 \times ____ = ____$

b. 2 3 5

$(3 \times 5) \times 2$
$= ____ \times 2 = ____$

$3 \times (5 \times 2)$
$= 3 \times ____ = ____$

c. 5 2

$(4 \times 5) \times 2$
$= ____ \times 2 = ____$

$4 \times (5 \times 2)$
$= 4 \times ____ = ____$

d. 2 1

$(6 \times 2) \times 1$
$= ____ \times 1 = ____$

$6 \times (2 \times 1)$
$= 6 \times ____ = ____$

e. 3 4 2

$(4 \times 2) \times 3$
$= ____ \times 3 = ____$

$4 \times (2 \times 3)$
$= 4 \times ____ = ____$

5 Find the product. Write another way to group the factors.

a. $(3 \times 2) \times 2$

$= ________$

b. $4 \times (3 \times 3)$

$= ________$

c. $5 \times (2 \times 4)$

$= ________$

6 Use parentheses. Find the product.

> *Math tip*
> *If there are no parentheses, you can choose which pair of numbers to multiply first.*

a. $3 \times 1 \times 5$ = ______	**b.** $1 \times 2 \times 3$ = ______	**c.** $5 \times 2 \times 4$ = ______
d. $4 \times 3 \times 1$ = ______	**e.** $2 \times 2 \times 5$ = ______	**f.** $2 \times 1 \times 6$ = ______

7 Circle the statements below that have the same value as $(9 \times 2) \times 5$.

$9 \times (2 \times 5)$ | 11×5 | 9×10

8 Circle the statements below that have the same value as $4 \times (10 \times 3)$.

4×13 | 4×30 | 14×3 | $(4 \times 3) \times 10$

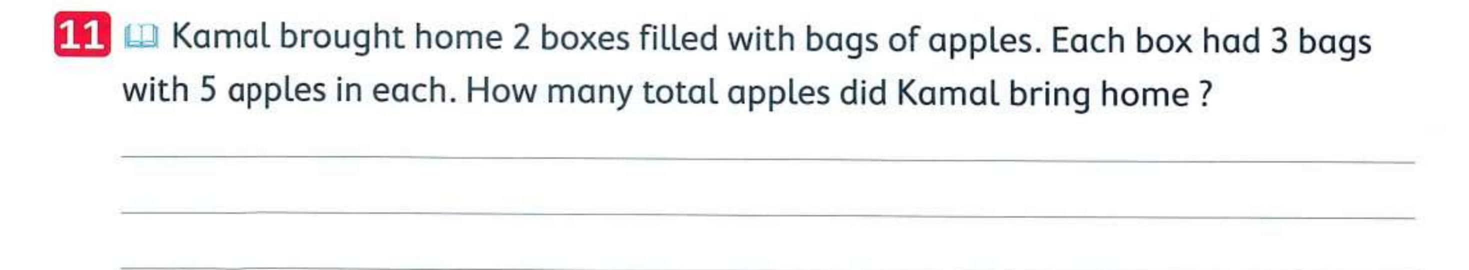
9 Circle the statements below that have the same value as $(8 \times 5) \times 2$.

$8 \times (5 \times 2)$ | 13×2 | 8×10 | 8×7

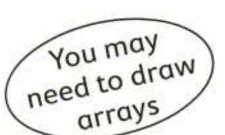
10 Circle the statements below that have the same value as $5 \times (10 \times 3)$.

5×13 | 5×30 | 15×3 | $(5 \times 3) \times 10$

11 Kamal brought home 2 boxes filled with bags of apples. Each box had 3 bags with 5 apples in each. How many total apples did Kamal bring home ?



Second : Exercises on Distributive Property



12 Break apart the following bar models according to the distributive property equations.

a.

6	6	6	6	6	6	6	6

$6 \times 8 = (6 \times 2) + (6 \times 6)$

b.

12	12	12	12	12	12	12	12	12

$12 \times 9 = (12 \times 4) + (12 \times 5)$

c.

$9 \times 7 = (9 \times 1) + (9 \times 6)$

d.

4	4	4	4	4	4

$4 \times 6 = (4 \times 2) + (4 \times 4)$

e.

7	7	7	7	7	7

$7 \times 6 = (7 \times 3) + (7 \times 3)$

f.

8	8	8	8	8	8	8	8

$8 \times 8 = (8 \times 3) + (8 \times 5)$

13 Write the distributive property equations of each.

a.

7	7	7	7	7 ¦	7	7	7

7 × ______ = ______ × (______ + ______)

= (______ × ______) + (______ × ______)

b.

5	5	5	5 ¦	5

______ × ______ = ______ × (______ + ______)

= (______ × ______) + (______ × ______)

c.

11	11	11 ¦	11	11	11

______ × ______ = ______ × (______ + ______)

= (______ × ______) + (______ × ______)

d.

8	8	8	8 ¦	8	8	8	8	8

______ × ______ = ______ × (______ + ______)

= (______ × ______) + (______ × ______)

e.

6	6	6	6	6	6	6	6	6	6 ¦	6	6	6	6	6

______ × ______ = ______ × (______ + ______)

= (______ × ______) + (______ × ______)

14 Break apart the following bar models. Use the distributive property to complete the equations and find the product.

a.

6	6	6	6	6	6	6	6	6

____ × ____ = ____ × (____ + ____)

= (____ × ____) + (____ × ____)

= ____ + ____ = ____

b.

8	8	8	8	8	8

____ × ____ = ____ × (____ + ____)

= (____ × ____) + (____ × ____)

= ____ + ____ = ____

c.

9	9	9	9	9	9	9

____ × ____ = ____ × (____ + ____)

= (____ × ____) + (____ × ____)

= ____ + ____ = ____

d.

5	5	5	5	5	5	5	5

____ × ____ = ____ × (____ + ____)

= (____ × ____) + (____ × ____)

= ____ + ____ = ____

15 Circle all the bar models which represent 5×6 from each of the following.

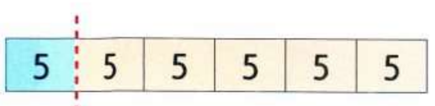
a. 5 5 5 5 ⋮ 5 5

b. 6 6 6 6 6 ⋮ 6

c. 5 5 5 ⋮ 5 5

d. 6 6 ⋮ 6 6 6

e.



5 ⋮ 5 5 5 5 5

f. 6 ⋮ 6 6 6 6

g. 5 5 5 5 ⋮ 5

h. 6 6 6 ⋮ 6 6 6

16 Complete the following as the example.

Example

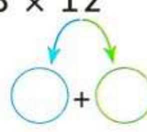
5 × 17 = 5 × (10 + 7)

10 + 7

= (5 × 10) + (5 × 7)

= 50 + 35 = 85

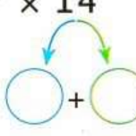
a. 8 × 12 = ____ × (____ + ____)



= (____ × ____) + (____ × ____)

= ____ + ____ = ____

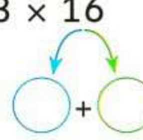
b. 7 × 14 = ____ × (____ + ____)



= (____ × ____) + (____ × ____)

= ____ + ____ = ____

c. 3 × 16 = ____ × (____ + ____)



= (____ × ____) + (____ × ____)

= ____ + ____ = ____

17 Use the distributive property of multiplication to find the product of each part. Solve in two ways.

a. **7 × 8**

First way	Second way
7 × 8 = 7 × (____ + ____)	7 × 8 = 7 × (____ + ____)
= (7 × ____) + (7 × ____)	= (7 × ____) + (7 × ____)
= ____ + ____ = ____	= ____ + ____ = ____

b.

6×13

First way

$6 \times 13 = 6 \times (____ + ____)$

$= (6 \times ____) + (6 \times ____)$

$= ____ + ____ = ____$

Second way

$6 \times 13 = 6 \times (____ + ____)$

$= (6 \times ____) + (6 \times ____)$

$= ____ + ____ = ____$

c.

9×15

First way

$9 \times 15 = ________$

$= ________$

$= ____ = ____$

Second way

$9 \times 15 = ________$

$= ________$

$= ____ = ____$

18 **Use the distributive property to complete the following equations and find the product.**

Answers may vary

a. $6 \times 7 = ____ \times (4 + ____)$

$= (6 \times 4) + (____ \times ____)$

$= ____ + ____ = ____$

b. $9 \times 6 = ____ \times (____ + 1)$

$= (9 \times ____) + (____ \times 1)$

$= ____ + ____ = ____$

c. $10 \times 12 = 10 \times (____ + 6)$

$= (____ \times ____) + (10 \times ____)$

$= ____ + ____ = ____$

d. $8 \times 9 = ____ \times (____ + ____)$

$= (____ \times 5) + (8 \times ____)$

$= ____ + ____ = ____$

19 **Complete.**

a. $8 \times 6 = 8 \times (4 + ____)$

b. $9 \times 5 = ____ \times (3 + 2)$

c. $14 \times 7 = 7 \times (____ + 4)$

d. $15 \times 6 = 6 \times (10 + ____)$

e. $3 \times 16 = 3 \times (10 + ____) = (____ \times ____) + (____ \times ____) = ____ + ____ = ____$

f. $5 \times 12 = 5 \times (___ + ___) = (___ \times ___) + (___ \times ___) = ___ + ___ = ___$

g. $4 \times 13 = 4 \times (___ + ___) = (___ \times ___) + (___ \times ___) = ___ + ___ = ___$

h. $7 \times 12 = 7 \times (___ + ___) = (___ \times ___) + (___ \times ___) = ___ + ___ = ___$

20 Choose the correct answer.

a. $6 \times 15 = (6 \times 5) + ___$ (6×1 or 6×10 or 6×5)

b. $3 \times ___ = (3 \times 7) + (3 \times 3)$ (3 or 7 or 10)

c. $8 \times 16 = (8 \times 10) + (___ \times 6)$ (6 or 8 or 16)

d. $(5 \times 10) + (5 \times 2) = ___$ (5×21 or 5×12 or 5×102)

e. $(4 \times 1) + (4 \times 6) = ___$ (24 or 28 or 30)

f. $(5 \times 7) + (5 \times 8) = ___$ (5×10 or 5×12 or 5×15)

Challenge

21 Farouk had the following problem to solve:

Use what you know about the properties of multiplication to find the missing number.

$$3 \times 5 = (3 \times 2) + (3 \times ___)$$

Farouk said, "The missing number is 5 because the Associative Property tells me I can break the problem into smaller chunks, so I just changed the grouping." What mistakes did Farouk make ? What would you tell him to help him correct his thinking and his work ? Record your answer in the box below.

Place a smiley face

Lesson 3

Estimating multiplication

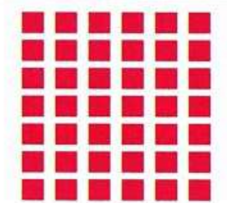
Learn

- Estimation does not give the exact answer but gives a closer answer.
- There are 7 boxes , each box contains 6 balls.
  How many balls are there in all ?

The actual problem is 7×6

Nada knows that	**Yasser** supposed 6 as 5 and multiplied them	**Amira** supposed 7 as 10 and multiplied them
$5 \times 5 = 25$	$7 \times 5 = 35$	$10 \times 6 = 60$
So, she said that the product must be greater than 25	So, he said that the product should be a little more than 35	So, she said that the actual product must be less than 60

- The actual product is 42 ,
  Yasser gives the closest estimation and it is acceptable estimation.



First The estimation of product of 2 numbers

Example (1)

Estimate the answer, then find the actual result of 9×7

Solution

9×7

Estimation		Actual product
Suppose 9 as 10	Suppose 7 as 5	$9 \times 7 = 63$
$10 \times 7 = 70$	$9 \times 5 = 45$	$63 > 45$ and $63 < 70$
The actual product must be less than 70	The actual product must be more than 45	

Notes for parents

- Tell your child that estimation tells about how many not the actual value.

Example 2

Estimate the answer, then find the actual result of **9 × 13**

Solution

Estimation		9 × 13 — Actual product
Suppose 9 as 10	Suppose 13 as 10	$9 \times 13 = 9 \times (10 + 3)$ Distributive property
$10 \times 13 = 130$	$9 \times 10 = 90$	$= (9 \times 10) + (9 \times 3)$
The actual product must be less than 130	The actual product must be more than 90	$= 90 + 27$
		$= 117$

Second The estimation of product of 3 numbers.

Example 3

Estimate the answer, then find the actual result of **4 × 6 × 5**

Solution

Estimation	4 × 6 × 5 — Actual product
Suppose 4 as 5, use associative property.	$4 \times (6 \times 5)$ Associative property
$(5 \times 6) \times 5$	$= 4 \times 30$
$= 30 \times 5 = 150$	$= 120$
The answer must be less than 150	

Check

Give an estimation to each of the following problems using any strategy. Find the actual product. Check if your estimation is close enough.

a.

Estimation	6 × 8	Actual product

b.

Estimation	3 × 7 × 5	Actual product

Notes for parents

- Remind your child with the multiplication properties like (commutative, associative and distributive)

Exercise
2
On Lesson 3

Estimating multiplication

From the school book

1 Estimate the answer of the following problems and use your thinking for how you found that estimate , then solve each problem using any strategy or property that helps you. (See example 1).

a.

Estimation	9×3	Actual Solution

b.

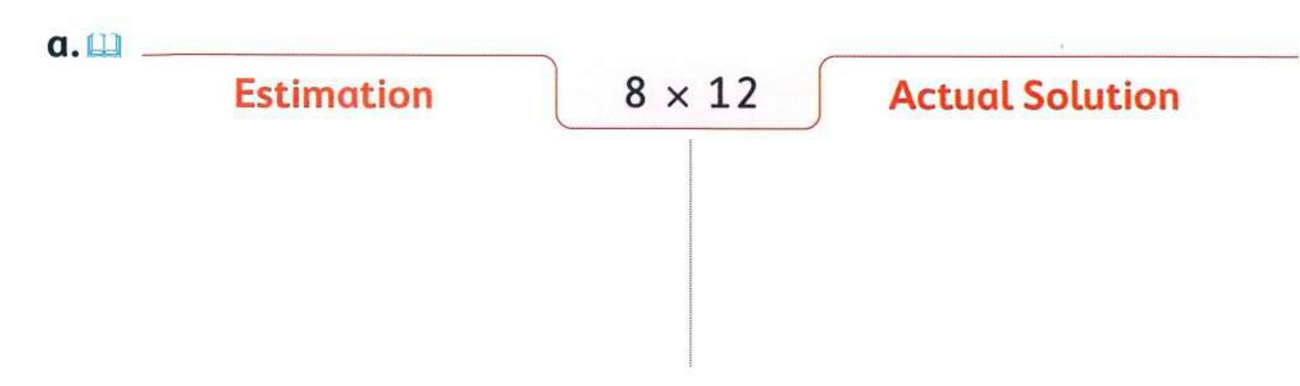
Estimation	8×4	Actual Solution

c.

Estimation	6×7	Actual Solution

2 Estimate the answer, then solve each problem. (See example 2).

a.



b.

Estimation	13×9	Actual Solution

c.

Estimation	9×12	Actual Solution

3 Estimate the answer, then solve each problem. (See example 3).

a.

Estimation	$4 \times 7 \times 5$	Actual Solution

b.

Estimation	$8 \times 5 \times 4$	Actual Solution

c.

Estimation	$2 \times 6 \times 10$	Actual Solution

4 **Write the equation you are trying to solve in each problem. Estimate the answer, solve each problem using any strategy or property that helps you.**

a. How many legs are there in 8 horses ?

The problem equation : ____________

Estimation	Actual Solution

b. Dalia had 8 baskets. Each basket held 6 eggs. How many eggs did Dalia have in all ?

The problem equation : ____________

Estimation	Actual Solution

c. Sami runs 15 minutes every day. How many minutes does Sami run in 7 days ?

The problem equation : ____________

Estimation	Actual Solution

Challenge

5 Amir had 4 boxes. In each box were 3 dolls, and each doll had 2 buttons on its shirt. How many total buttons were there ?

Write the equation you are trying to solve in this story problem. ____________

Estimate : ____________	Actual Solution : ____________

Place a smiley face

Lessons

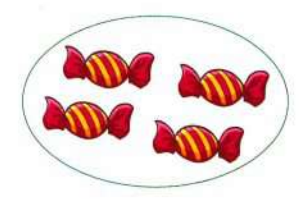
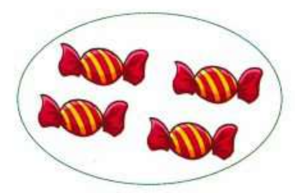
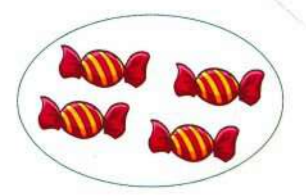
4 & 5

- Applications on multiplication and division
- Strategies for multiplication and division

Pre-study Division

- To share things equally, you can divide.
- 12 sweets are divided among 3 children.
  How many sweets does each child get ?

  Separate 12 sweets into 3 equal groups.

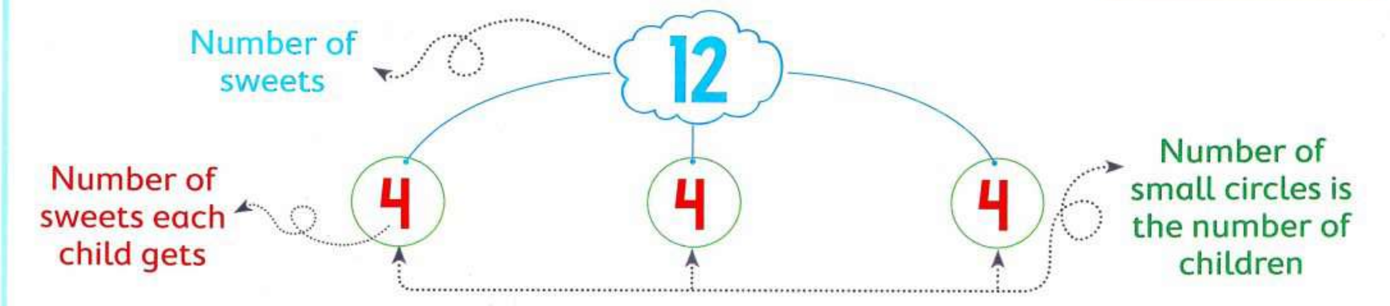
Each child gets 4 sweets.

The division sentence :

Hint

Use skip count by 3s to get 12.
3 , 6 , 9 , (12)
You skiped 4 times.

- **By representing the problem with part - part - whole model.**

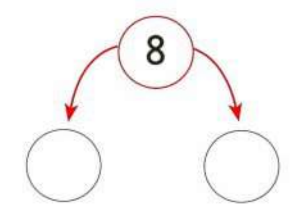


Check

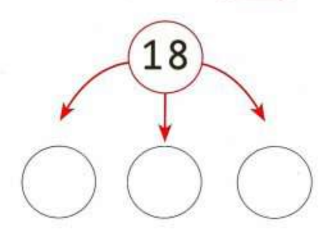
You may use skip count

Divide. Fill in the part-part-whole model.

$8 \div 2 = \square$



$18 \div 3 = \square$



$40 \div 4 = \square$

40

Notes for parents

- Remind your child of the meaning of division.

Learn Applications on multiplication and division "Fact family"

Remember

- *Product* the answer to a multiplication problem.
- *Quotient* the answer to a division problem.
- *Fact family* a set of related facts.
- *Inverse operation* operation that undo each other (addition - subtraction) & (multiplication - division)

- The band played 5 songs during the halftime of the football game. Each song was 3 minutes long. How long did the band play ?

Equation : $5 \times 3 = \boxed{?}$

Think : $5 \times 3 = 15$

So, the band played for 15 minutes.

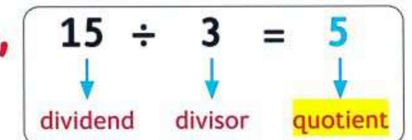
- The band played for 15 minutes at another football game. Each song was 3 minutes long. How many songs did the band play ?

Equation : $15 \div 3 = \boxed{?}$

Think :

5	×	3	=	15
↓ factor		↓ factor		↓ product

So,



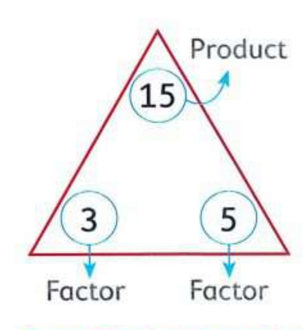
So, the band played **5** songs.

MATH IDEA Multiplication and division by the same number are opposite operations, or inverse operations. One operation undoes the other.

- A set of related multiplication and division equations using the same numbers is a fact family.

$5 \times 3 = 15$	$15 \div 3 = 5$
$3 \times 5 = 15$	$15 \div 5 = 3$

→ Fact family for 3 , 5 , 15



Fact family triangle

• Ask your child to write the fact family of : 2 , 3 , 6 and 4 , 7 , 28.

Example 1

Fill in the missing numbers of the following. Complete the fact family for each.

a. $5 \times 8 = 40$
$___ \times 5 = 40$
$40 \div 8 = ___$
$40 \div 5 = ___$

b. $3 \times 9 = ___$
$___ \times 3 = 27$
$___ \div 9 = 3$
$___ \div 3 = 9$

c. $6 \times ___ = 42$
$7 \times ___ = 42$
$42 \div ___ = 6$
$___ \div 6 = 7$

Solution

a. $5 \times 8 = 40$
$8 \times 5 = 40$
$40 \div 8 = 5$
$40 \div 5 = 8$

b. $3 \times 9 = 27$
$9 \times 3 = 27$
$27 \div 9 = 3$
$27 \div 3 = 9$

c. $6 \times 7 = 42$
$7 \times 6 = 42$
$42 \div 7 = 6$
$42 \div 6 = 7$

Example 2

Complete.

a. $3 \times ___ = 21$
b. $___ \times 4 = 24$
c. $18 \div 3 = ___$
d. $35 \div 7 = ___$
e. $___ \div 6 = 10$
f. $56 \div ___ = 8$

Solution

a. $3 \times 7 = 21$

b. $6 \times 4 = 24$

c. $18 \div 3 = ___$ — Think : $3 \times ? = 18$ So, $3 \times \boxed{6} = 18$, then $18 \div 3 = 6$

d. $35 \div 7 = ___$ — Think : $7 \times ? = 35$ So, $7 \times \boxed{5} = 35$, then $35 \div 7 = 5$

e. $___ \div 6 = 10$ — Think : $6 \times 10 = 60$ So, $\boxed{60} \div 6 = 10$

f. $56 \div ___ = 8$ — Think : $8 \times ? = 56$ So, $8 \times \boxed{7} = 56$, then $56 \div 7 = 8$

Check

Complete.

a. $2 \times ___ = 18$
b. $___ \times 8 = 24$
c. $40 \div 4 = ___$
d. $___ \div 9 = 6$
e. $45 \div ___ = 5$
f. $36 \div ___ = 6$

Notes for parents

- Ask your child to explain how can we use the relation between multiplication and division to solve multiplication and division problems.

Exercise 3

On Lessons 4&5

- Applications on multiplication and division
- Strategies for multiplication and division

From the school book

1 Fill in the missing numbers of the following problems. Complete the fact family for each.

a.	b.	c.
4 × 5 = 20	3 × 7 = ____	1 × ____ = 13
5 × ____ = 20	7 × 3 = ____	____ × 1 = 13
20 ÷ 5 = ____	____ ÷ 7 = 3	13 ÷ ____ = 1
____ ÷ 4 = 5	____ ÷ 3 = 7	13 ÷ 1 = ____

d.	e.	f.
9 × ____ = 18	____ × 6 = 24	____ × 10 = 80
____ × 9 = 18	6 × ____ = 24	10 × ____ = 80
18 ÷ ____ = 9	24 ÷ 6 = ____	80 ÷ ____ = 10
18 ÷ 9 = ____	24 ÷ ____ = 6	80 ÷ 10 = ____

2 Complete the fact family.

a. 3 15 5

____ × ____ = ____

____ × ____ = ____

____ ÷ ____ = ____

____ ÷ ____ = ____

b. 35 7 5

____ × ____ = ____

____ × ____ = ____

____ ÷ ____ = ____

____ ÷ ____ = ____

c. 4 3 12

____ × ____ = ____

____ × ____ = ____

____ ÷ ____ = ____

____ ÷ ____ = ____

d. 5 45 9

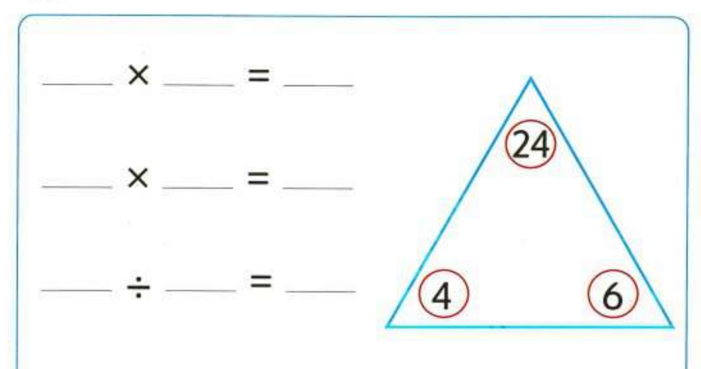
____ × ____ = ____

____ × ____ = ____

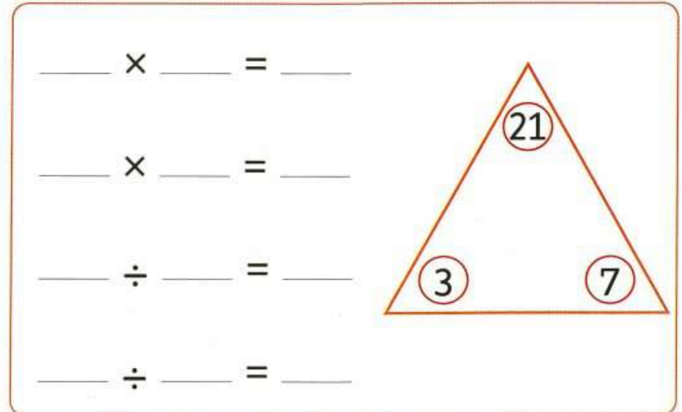
____ ÷ ____ = ____

____ ÷ ____ = ____

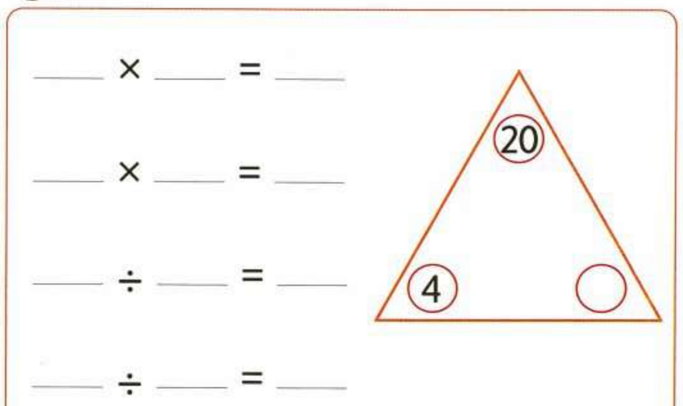
e.



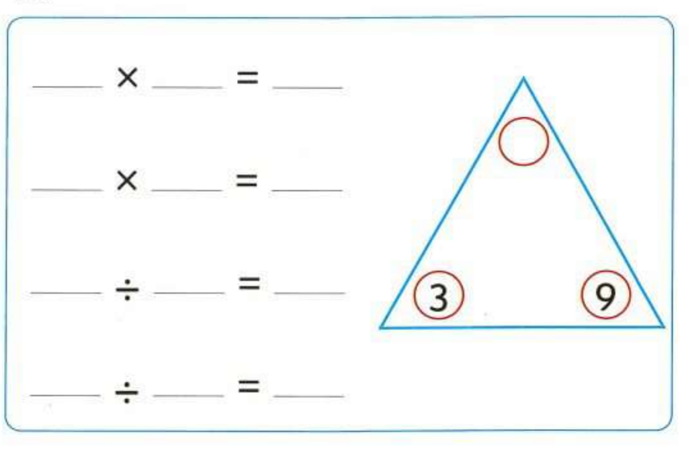
f.



g.



h.



3 Find the product of each of the following. Write the other multiplication equation.

a. 2 × 4 = ____ ____ × ____ = ____	**b.** 3 × 8 = ____ ____ × ____ = ____	**c.** 4 × 8 = ____ ____ × ____ = ____
d. 5 × 3 = ____ ____ × ____ = ____	**e.** 6 × 2 = ____ ____ × ____ = ____	**f.** 9 × 7 = ____ ____ × ____ = ____

4 Find the quotient of each of the following. Write the other division equation.

a. 16 ÷ 2 = ____ ____ ÷ ____ = ____	**b.** 50 ÷ 5 = ____ ____ ÷ ____ = ____	**c.** 28 ÷ 4 = ____ ____ ÷ ____ = ____
d. 40 ÷ 8 = ____ ____ ÷ ____ = ____	**e.** 36 ÷ 9 = ____ ____ ÷ ____ = ____	**f.** 42 ÷ 7 = ____ ____ ÷ ____ = ____

5 Complete the missing numbers in each of the following.

a. $5 \times ___ = 10$ $10 \div 5 = ___$	**b.** 📖 $7 \times ___ = 21$ $21 \div 7 = ___$	**c.** $10 \times ___ = 80$ $80 \div ___ = 10$
d. $___ \times 7 = 14$ $14 \div 7 = ___$	**e.** $___ \times 6 = 54$ $54 \div 6 = ___$	**f.** $___ \times 7 = 49$ $49 \div ___ = 7$

6 Complete the missing numbers in each of the following.

a. 📖 $36 \div 6 = ___$ $6 \times ___ = 36$	**b.** $40 \div 5 = ___$ $5 \times ___ = 40$	**c.** $56 \div 7 = ___$ $7 \times ___ = 56$
d. $27 \div ___ = 3$ $3 \times ___ = 27$	**e.** $16 \div ___ = 4$ $4 \times ___ = 16$	**f.** $72 \div ___ = 8$ $8 \times ___ = 72$
g. $36 \div 9 = ___$ $36 \div ___ = 9$	**h.** $20 \div 2 = ___$ $20 \div ___ = 2$	**i.** $18 \div ___ = 3$ $18 \div 3 = ___$
j. $___ \div 8 = 6$ $8 \times 6 = ___$	**k.** $___ \div 7 = 5$ $7 \times 5 = ___$	**l.** $___ \div 6 = 4$ $4 \times 6 = ___$

7 Choose the correct answer.

a. $___ \div 8 = 10$ (2 or 18 or 80)

b. $2 \times ___ = 18$ (6 or 8 or 9)

c. $63 \div ___ = 9$ (7 or 8 or 9)

d. $___ \div 11 = 6$ (17 or 6 or 66)

e. $15 \div 3 = ___$ (5 or 12 or 18)

f. $___ \times 5 = 45$ (7 or 8 or 9)

g. $16 \div$ ___ $= 4$ (2 or 4 or 8)

h. ___ $\div 7 = 3$ (4 or 10 or 21)

i. ___ $\times 8 = 56$ (6 or 7 or 8)

8 Fill in the missing numbers, then draw lines to connect the equations that are related.

$2 \times$ ___ $= 18$	$80 \div$ ___ $= 8$
$7 \times 4 =$ ___	$18 \div 2 =$ ___
___ $\times 10 = 80$	___ $\div 4 = 7$

9 Solve the following problems using an efficient strategy for you.

	Problem	Work area	Answer
a.	$24 \div 2 =$ ___		
b.	$4 \times 5 \times 2 =$ ___		
c.	$12 \times$ ___ $= 48$		
d.	$63 \div$ ___ $= 7$		
e.	___ $\times 7 = 56$		

10 Write the related equation and solve it.

Problem	Work area	Answer
a. Adel picked 45 apples. He put them equally into buckets. When he was done, he had 9 buckets. How many apples were in each bucket ? **Equation :** ___		

b. 🕮 Habiba baked 25 cookies. She wanted to share them with her 5 friends. How many cookies would each friend get ? **Equation :** ____________		
c. 🕮 Farha had 8 bags of marbles. Each bag had 6 marbles inside. How many marbles did Farha have altogether ? **Equation :** ____________		
d. Bassem bought 3 bottles of milk. He paid 36 pounds. What is the price of each bottle of milk ? **Equation :** ____________		

Challenge

11 Pick one of the following problems and write a story problem using those numbers, then solve it.

$28 \div 2 =$ ____ $15 \times$ ____ $= 45$ $2 \times 5 \times 7 =$ ____

____

____

____

Lesson

Perimeter of a square and a rectangle

Learn 1 Finding the perimeter of square and rectangle

Remember : Perimeter is a liner measurement of the distance around the shape.

Square

It has :

- 4 equal sides in length
- 4 vertices

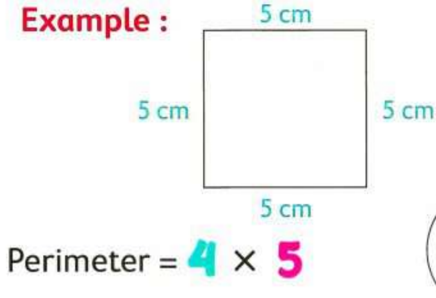
Side

Side | Side

Side

Perimeter = side length + side length + side length + side length = **4** × side length

Example :



Perimeter = **4** × **5**

= **20** cm

Rectangle

It has :

- 4 sides "2 short parallel with the same length - 2 long parallel with the same length"
- 4 vertices

Length

Width | Width

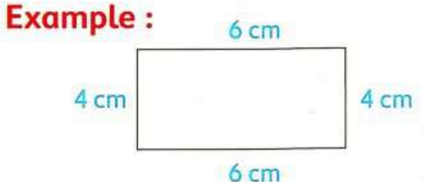
Length

Perimeter = length + width + length + width

= **2** × length + **2** × width

= **2** × (length + width)

Example :

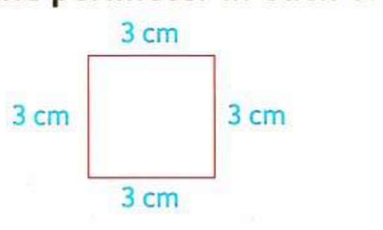


Perimeter = **2** × (**6** + **4**)

= **2** × **10** = **20** cm

Check

Find the perimeter in each of the following.



The perimeter = ____________

5 cm

3 cm | 3 cm

5 cm

The perimeter = ____________

Notes for parents

- Remind your child with the properties of each of square and rectangle to be able to calculate their perimeters.

Learn 2 Finding the unknown length given the perimeter

Example (1)

Find the side length of the square which its perimeter is 20 cm.

Solution

Where perimeter = 20 cm

So, **4 × ? = 20**

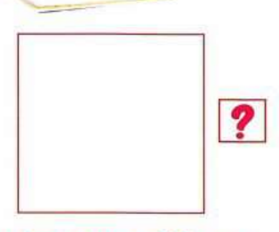
Think : 20 ÷ 4 = 5

Then, the side length = 5 cm

Short way :

Side length = perimeter ÷ 4

So, side length = 20 ÷ 4 = 5 cm



Perimeter = 20 cm

Example (2)

Find the length of the rectangle which its width is 2 cm, and its perimeter is 12 cm.

Solution

Where perimeter = 12 cm

So, **2 ×** (length + width) **= 12**

Then : 2 × ? = 12

Think : 12 ÷ 2 = 6

Then, length + width **= 6**

Think : 6 - 2 = 4

Then, the length = 4 cm

Perimeter = 12 cm

Short way :

The length = (perimeter ÷ 2) – width

So, the length = (12 ÷ 2) – 2

= 6 – 2 = 4 cm

Check

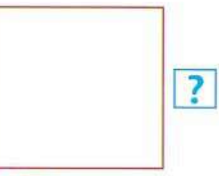
Use the information in each of the following to find the unknown side.

Perimeter = ____ cm

4 × ? = ____

____ ÷ 4 = ____

The side length = ____ cm



Perimeter = 24 cm

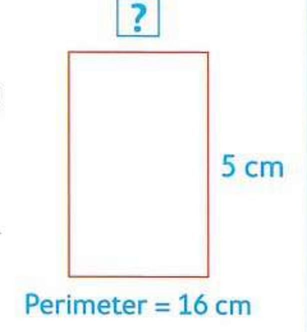
Perimeter = ____ cm

length + width = ____ ÷ 2

= ____

width = ____ – ____ = ____

The width = ____ cm



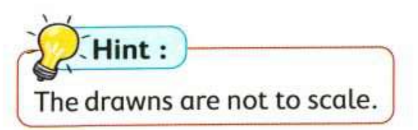
Perimeter = 16 cm

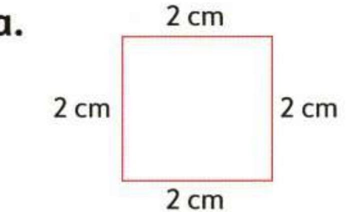
• Help your child use multiplication and division to find the unknown length or width in each problem.

Perimeter of a square and a rectangle

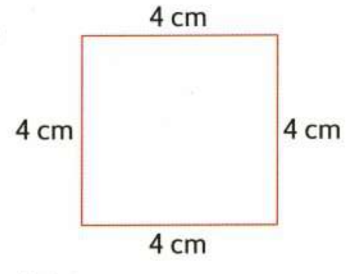
From the school book

1 Find the perimeter of each square.

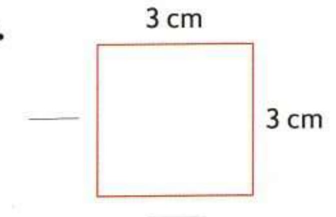


a. 

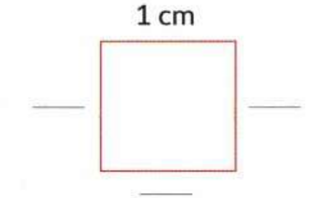
Perimeter = ______

b. 

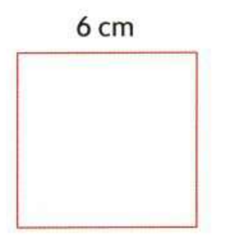
Perimeter = ______

c. 

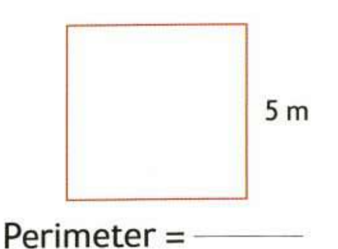
Perimeter = ______

d. 

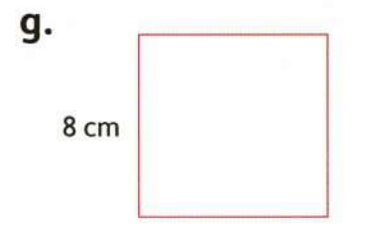
Perimeter = ______

e. 

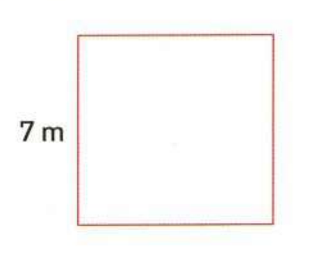
Perimeter = ______

f. 

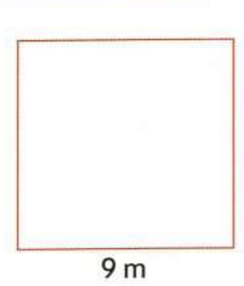
Perimeter = ______

g. 

Perimeter = ______

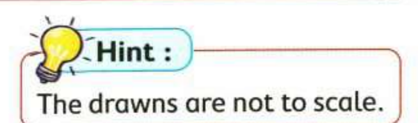
h. 

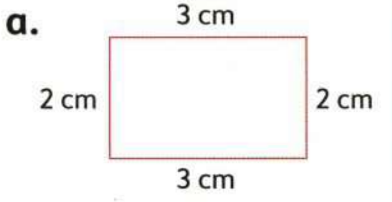
Perimeter = ______

i. 

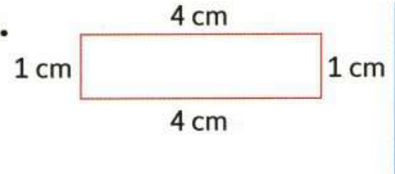
Perimeter = ______

2 Find the perimeter of each rectangle.

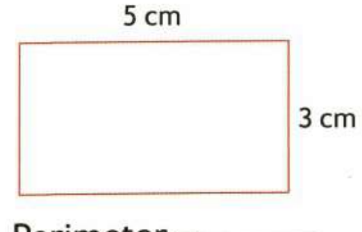


a. 

Perimeter = ______

b. 

Perimeter = ______

c. 

Perimeter = ______

d.

8 cm

4 cm

Perimeter = ______

e.

7 m

2 m

Perimeter = ______

f.

2 m

6 m

Perimeter = ______

g.

1 m

5 m

Perimeter = ______

h.

8 cm

6 cm

Perimeter = ______

i.

7 cm

3 cm

Perimeter = ______

3 Find the unknown side using the perimeter.

Hint : The drawns are not to scale.

a.

?

Perimeter = 20 cm

Side length = ______

b.

?

Perimeter = 40 m

Side length = ______

c.

?

Perimeter = 28 cm

Side length = ______

d.

?

Perimeter = 32 m

Side length = ______

e.

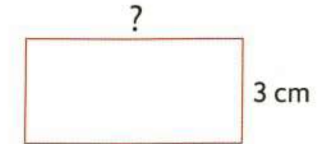
6 m

?

Perimeter = 18 m
Width = ______

______

f.



Perimeter = 24 cm
Length = ______

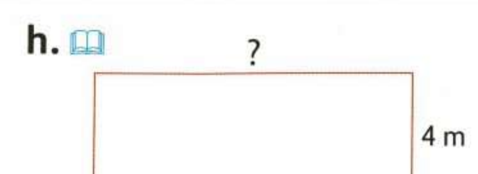
______

g.

Perimeter = 20 km
Width = ______

______

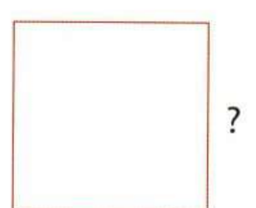
h.



Perimeter = 22 m
Length = ______

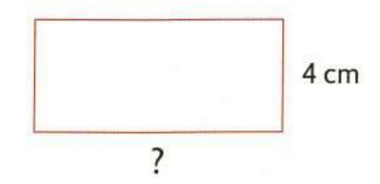
______

i.



Perimeter = 36 km
Side length = ______

j.



Perimeter = 20 cm
Length = ______

______

4 Complete each of the following.

a. The perimeter of square = side length × ______

b. The perimeter of rectangle = (l + w) × ______

c. The perimeter of square of side length 7 cm is ______ cm

d. The perimeter of rectangle of length 8 cm and width 3 cm is ______ cm

e. The perimeter of rectangle of length 6 m and width 5 m is ______ m

f. The side length of square of perimeter 24 cm is ______ cm

g. The length of the rectangle whose width is 5 m and perimeter 30 m is ______ m

h. The width of the rectangle whose length 8 cm and perimeter 24 cm is ______ cm

5 Choose the correct answer.

a. The perimeter of the square whose side length is 6 cm = ______ cm

You may need to draw square

◯ 6 ◯ 12 ◯ 24 ◯ 36

b. The perimeter of the square whose side length is 5 m = ______ m

◯ 10 ◯ 20 ◯ 50 ◯ 100

c. The side length of the square whose perimeter is 12 cm = ______ cm

◯ 10 ◯ 8 ◯ 4 ◯ 3

d. The side length of the square whose perimeter is 32 units = ______ units

◯ 16 ◯ 8 ◯ 4 ◯ 12

e. The perimeter of the rectangle whose length is 5 cm and width is 3 cm equals ______ cm

◯ 8 ◯ 15 ◯ 16 ◯ 20

f. The perimeter of the rectangle whose length is 9 cm and width is 7 cm equals ______ cm

◯ 2 ◯ 16 ◯ 63 ◯ 32

g. The length of the rectangle whose width is 2 cm and perimeter is 10 cm equals ______ cm

◯ 8 ◯ 6 ◯ 5 ◯ 3

h. The width of the rectangle whose length is 5 cm and perimeter is 16 cm equals ______ cm

◯ 9 ◯ 3 ◯ 8 ◯ 21

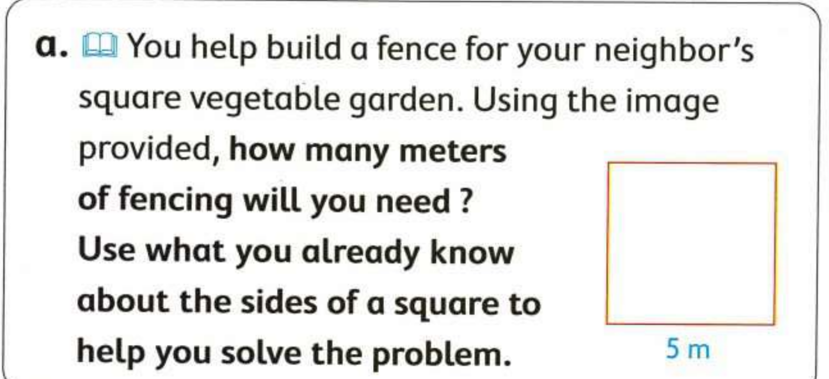
i. The length of the rectangle whose width is 4 m and perimeter is 22 m equals ______ m

◯ 18 ◯ 14 ◯ 7 ◯ 9

6 Read each story. Solve the problem.

Area of square = side × side

Work area



a. You help build a fence for your neighbor's square vegetable garden. Using the image provided, **how many meters of fencing will you need ? Use what you already know about the sides of a square to help you solve the problem.**

5 m

b. Sandy built a fence for her garden which shaped like a square. She used 28 meters. **What is the side length for Sandy's garden ?**

Perimeter = 28 m

c. Hani is building a fence for his garden which is shaped like a rectangle. The length of the garden is 5 meters and the width of the garden is 2 meters. **How many meters of fencing will Hani need ?**

5 m

2 m

d. Your neighbor decides to show their appreciation by helping you plant and fence a rectangular garden. They give you 24 meters of fencing that they had left over. **You want your garden to be 10 meters long. How wide can you make your garden ?**

10 m

Perimeter = 24 m

Place a smiley face

Lessons 7 to 9

- Two-step story problems
- Strategies for solving two-step story problems
- Writing story problems

Learn How do you solve two-step story problems ?

- **Two-step story problem** is a problem that involve two operations.
- Some story problems have **hidden question or questions** that must be answered before you can solve the problem.
  You have to determine what operation to use and what strategies will you use to help you figure out how to solve the problem.

Notice the following key words

+ Addition	Add, Sum, In all, Plus, Total, Altogether
− Subtraction	Subtract, Remainder, Difference, Less than, Minus, Left
× Multiplication	Multiply, Product, Times, Twice, Triple
÷ Division	Divide, Equally, Distribute

Example 1

Dina bought 3 packs of crayons. Each pack contains 12 crayons.
If she gave her friend 6 crayons of them.

How many crayons are left ?

First Way Using multiplication and subtraction operations.

➲ **Find the hidden question:**

How many crayons did Dina buy ?

$3 \times 12 = 36$
(3 packs × 12 crayons = 36 crayons)

Dina bought 36 crayons in all.

Remember

- Use distributive property
  $3 \times 12 = (3 \times 10) + (3 \times 2)$
  $= 30 + 6$
  $(10 + 2) = 36$
- Repeated addition
  $3 \times 12 = 12 + 12 + 12 = 36$

➲ **Solve the problem:**

How many crayons are left ?

Short way to solve

$(3 \times 12) - 6 = 36 - 6 = 30$

The left crayons are 30 crayons.

Notes for parents

- Let your child discover and solve the hidden question and ask him/her if he/she could solve the problem using the short way.

Another Way **Using addition and subtraction operations**

Dina bought 3 packs of 12 crayons

$$12 + 12 + 12 = 36$$

She gave 6 to her friend

$$36 - 6 = 30$$

The left crayons are **30** crayons.

Short way to solve

$(12 + 12 + 12) - 6$
$= 36 - 6 = 30$

Example 2

Mr. Samir distributed 28 sheets of paper equally among 7 children in the first time.

If he gave 2 more sheets for each child.

How many sheets did each child get in all ?

Answer **Using division and addition operations**

➲ **Find the hidden question:**

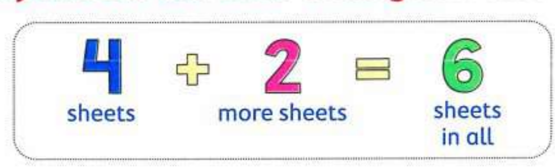
How many sheets did each child get in the first time ?

28	÷	7	=	4
sheets		children		sheets

Each child got 4 sheets in the first time.

➲ **Solve the problem:**

How many sheets did each child get in all ?



Short way to solve

$(28 \div 7) + 2 = 4 + 2 = 6$

Each child got 6 sheets in all.

Notes for parents

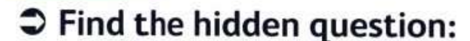
• Tell your child that multistep problem needs to know what information do you have to help you solve the problem.

Example 3

Sara had 29 L.E. If she saved 15 L.E. and distributed the rest equally between her two sisters.

How much money will each sister have ?

Answer Using subtraction and division operations



➲ **Find the hidden question:**

How much money are left after Sara saved 15 L.E. of them ?

Sara distributed 14 L.E. between her two sisters.

➲ **Solve the problem:**

How much money will each sister have ?

Short way to solve

$(29 - 15) \div 2$
$= 14 \div 2$
$= 7$

Each sister will have 7 L.E.

Check

Write and answer the hidden question. Then solve the problem.

Youssef has a box containing 24 balls. The box includes an equal number of red, green and yellow balls. He gave all red balls to his friends.

How many green and yellow balls are left ?

➲ Find the hidden question	➲ Solve the problem

• Help your child write the hidden question and solve the problem.

Exercise 5

On Lessons 7 to 9

- Two-step story problems
- Strategies for solving two-step story problems
- Writing story problems

📖 From the school book

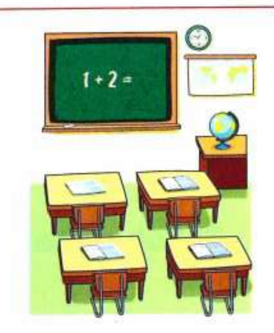
1 📖 Ali earns 25 L.E. per week for doing all his chores. On the fourth week, he forgets to take out the trash, so he only earns 20 L.E.

Write and solve an equation to show how much Ali earns in 4 weeks.

---

2 📖 Salma orders 3 packs of markers. Each pack contains 6 markers. After passing out 1 marker to each student in her class, she has 2 left.

How many students are in Salma's class ?



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3 📖 Bassem buys a box containing 18 pieces of fruit. The box includes an equal number of figs, bananas, and oranges. He eats all of the figs.

How many pieces of fruit does Bassem have left ?

---

4 📖 Each day, Habiba eats 10 crackers for a snack at school. On Friday, she drops 3 crackers and only eats 7.

What is the total number of crackers that Habiba eats during the week?

---

5 📖 Laila buys 24 seeds. She has 5 pots. She wants to plant 3 seeds in each pot.

How many more pots does Laila need to plant all of her seeds ?

6 Mr. Yassin had 52 pieces of fruit. He took 4 pieces for him and distributed the rest equally among 8 children.

How many pieces of fruit does each child get ?

7 **Read and solve each problem. Show your work in the first strategy box. Then, use a different strategy to solve the problem and show your work in the second strategy box.**

a. The park has 152 trees. There are 88 fig trees. The rest of the trees are palm trees. **How many more fig trees are there than palm trees ?**

First Strategy	Second Strategy

b. There are 17 young crocodiles and 19 adult crocodiles. The crocodiles are placed equally into 4 areas. **How many crocodiles are in each area ?**

First Strategy	Second Strategy

Challenge

8 **Read the story problems and the students' solutions.**
Figure out the wrong and then correctly solve the problem. as the example.

Example

- Amina's family went on a three-days road trip. On the first day, they drove 240 kilometers. On the second day, they drove 123 kilometers. On the third day, they drove 215 kilometers. Last year on their road trip, they drove a total of 428 kilometers.

How many more kilometers did they drive on this trip ?

Amina's family drove 240 km, 123 km, and 215 km on this road trip.
I added those numbers together and then added to the 428 km they drove on their last three-days road trip. Amina's family drove 1,006 km in all.

What did the student do wrong ?	Correctly solve the problem and show your thinking.
The wrong step is adding the total to 428 km.	240 + 123 + 215 = 578 km Amina's family drove 578 km for three days. 578 - 428 = 150 km Amina's family drove 150 km more than the last year road trip.

a. Hashem's family went on a three-days road trip. On the first day, they drove 350 kilometers. On the second day, they drove 213 kilometers. On the third day, they drove 124 kilometers. Last year on their road trip, they drove a total of 432 kilometers.

How many more kilometers did they drive on this trip ?

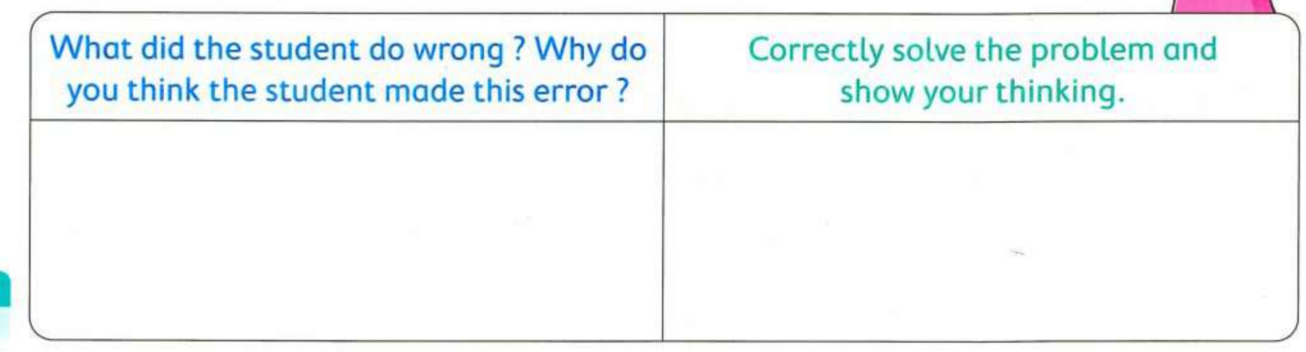
Hashem's family drove 350 km, 213 km, and 124 km on this road trip. I added those numbers together and then added to the 432 km they drove on their last three-days road trip. Hashem's family drove 1,119 km in all.

What did the student do wrong ? Why do you think the student made this error ?	Correctly solve the problem and show your thinking.

b. Hoda had 3 bags of candy. Each bag contained 4 pieces of candy. She also had 8 pieces of candy that were not in a bag.

How much candy did Hoda have in all ?

Hoda had 4 pieces of candy in all. First, I figured out what she had in the bags, and then I took away what she had that was not in the bag.



What did the student do wrong ? Why do you think the student made this error ?	Correctly solve the problem and show your thinking.

c. 📖 Mariam baked 24 chocolate chip cookies. She divided the cookies equally into 4 containers. Then, she baked more cookies so that she could put 4 more cookies in each container.

How many cookies are in each container ?

> There are 7 cookies in each container 6 cookies from the first batch she made and 1 cookie from the second batch she made.

What did the student do wrong ? Why do you think the student made this error ?	Correctly solve the problem and show your thinking.

d. 📖 Emad earned money for completing extra chores. He earned 8 L.E. per hour cleaning the bedrooms. He worked for 3 hours. He also earned an extra 16 L.E. for vacuuming the entire house.

How much money did Emad earn ?

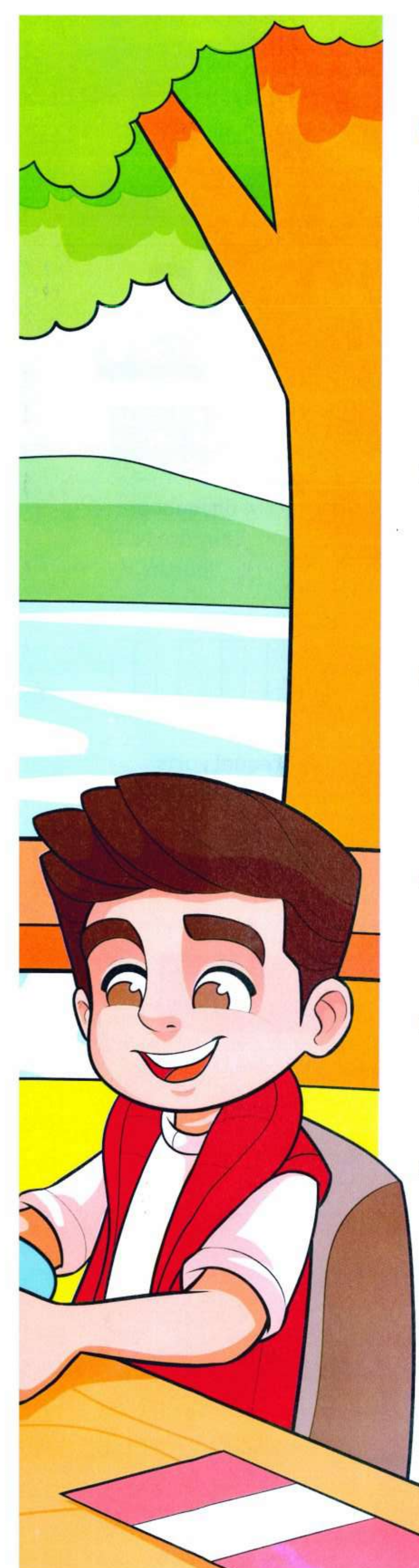
> Emad earned 24 L.E. by completing the chores. He earned 8 L.E. cleaning the bedrooms and then 16 L.E. for vacuuming.

What did the student do wrong ? Why do you think the student made this error ?	Correctly solve the problem and show your thinking.

9 **Write and solve a two-step problem in the box and solve it.**

Place a smiley face

CHAPTER 8



Outcomes of chapter eight :

At the end of chapter eight, your child will be able to:

▶ **Lessons 1 & 2 :**

- **More fractions**
- **Exploring unit fractions**
- Investigate the relationship between parts and wholes in fractions.
- Define the word "fraction" in relation to parts and wholes.
- Create models to represent fractions..
- Describe one part of a whole using fraction vocabulary.
- Define unit fraction.

▶ **Lesson 3 :**

- **Applications on unit fractions using models**
- Discuss fractions terms numerator, denominator, and unit fraction.
- Reason with fractions in real-life applications using models.
- Write a fraction story problem using models.

▶ **Lesson 4 :**

- **Comparing unit fractions using models**
- Compare different unit fractional parts of the same whole using models.
- Explain the relationship between the size of the denominator and the size of the fraction as it relates to the whole.

▶ **Lesson 5 :**

- **Which is bigger ?**
- Explain why the size of the whole matters when comparing two unit fractions.

▶ **Lesson 6 :**

- **Expressing one using the unit fractions**
- Write one whole as a fraction.
- Explain how to write one whole as a fraction.

▶ **Lessons 7 to 9 :**

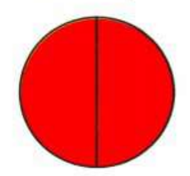
- **Relation between fractions and division**
- **More of the relation between fractions and division**
- **Applications on fractions**
- Investigate the relationship between fractions and division using models.
- Divide a set into equal parts.
- Determine the quantity in each fractional part of a set.
- Explain the relationship between fractions and division.
- Reason with fractions in real-life applications.

Lessons 1 & 2

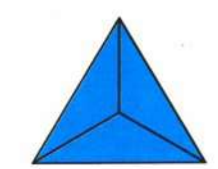
• More fractions
• Exploring unit fractions

Learn 1 Equal parts

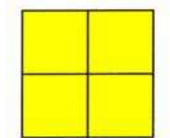
• **Are the parts equal ?**



2 equal parts
They are halves.



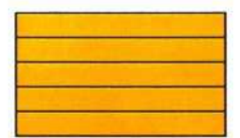
3 equal parts
They are thirds.



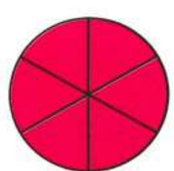
4 equal parts
They are fourths.

4 unequal parts
They are NOT fourths.

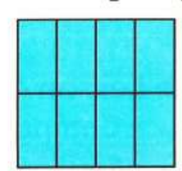
• **Here are other ways to divide a whole into equal parts.**



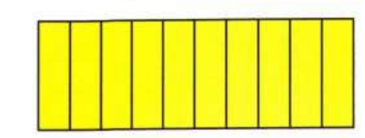
5 equal parts
They are fifths.



6 equal parts
They are sixths.



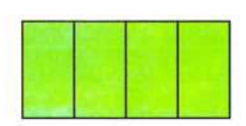
8 equal parts
They are eighths.



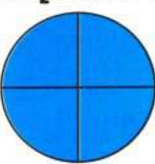
10 equal parts
They are tenths.

Check

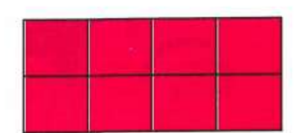
Write the number of parts. Circle equal or unequal.



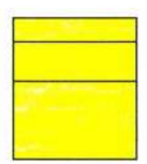
☐ equal parts
unequal parts



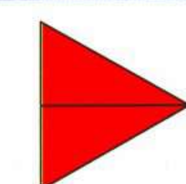
☐ equal parts
unequal parts



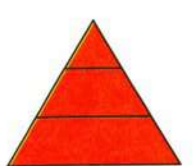
☐ equal parts
unequal parts



☐ equal parts
unequal parts



☐ equal parts
unequal parts



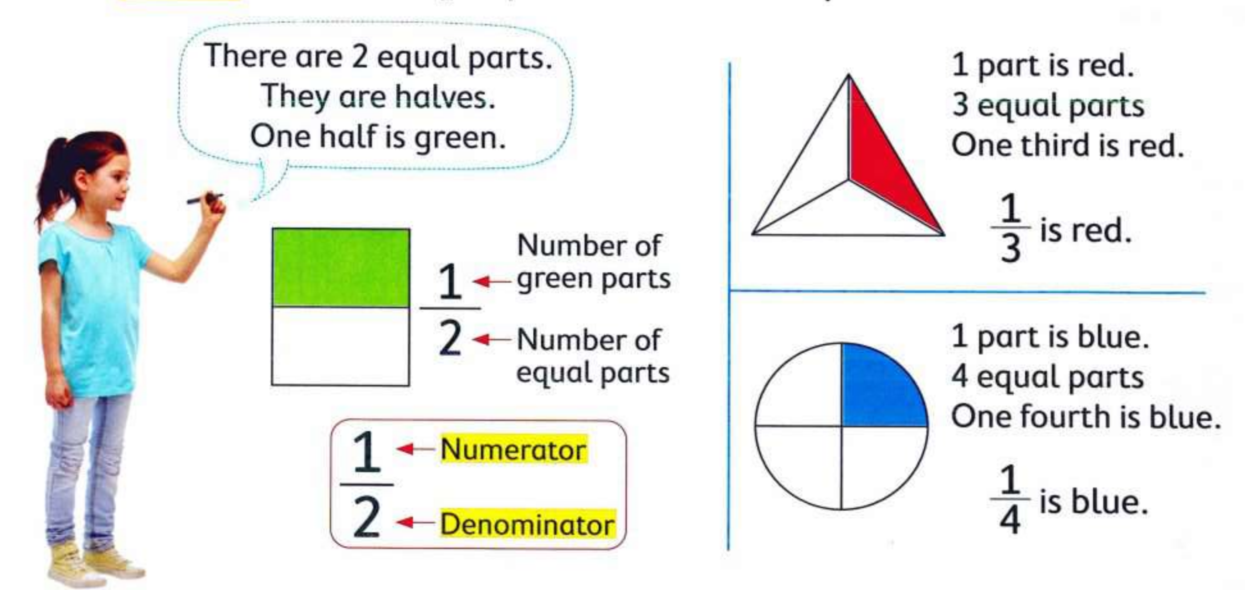
☐ equal parts
unequal parts

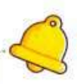
Notes for parents

• Ask your child to look for things at home that is divided into equal parts and let him/her to tell its name.
• Remind your child that fourth is same as quarter.

Learn 2 Fractions as parts of a whole

- A fraction can name equal parts of a whole shape.





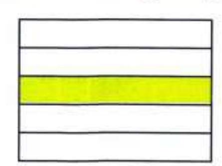
Remember

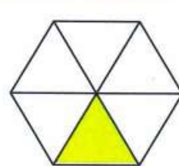
- *Numerator*
  It is top number of a fraction that tells the number of equal parts considered.
- *Denominator*
  It is bottom number of a fraction that tells the number of equal parts in all.

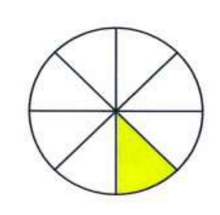
Check

Tell how many green parts there are.

Tell how many equal parts there are. Write the fraction.







_____ part is green. _____ part is green. _____ part is green.

_____ equal parts _____ equal parts _____ equal parts

is green.

is green.

is green.

- Ask your child to draw three squares. Then ask him/her to divide and color them to show $\frac{1}{2}$, $\frac{1}{3}$ and $\frac{1}{4}$.

Learn 3 Exploring unit fractions

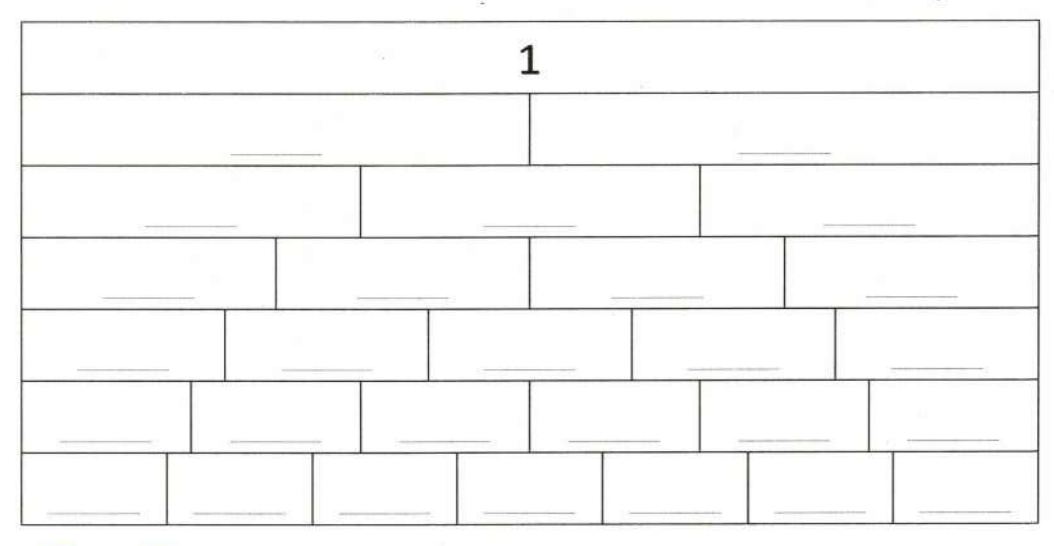
- Unit fraction : It is a fraction with a 1 as the numerator. It represents one unit, or one part of a whole.
- You can divide one whole into unit fractions in different ways.

1				One whole
$\frac{1}{2}$	$\frac{1}{2}$			2 halves
$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$		3 thirds
$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	4 fourths

1 whole = 2 halves = 3 thirds = 4 fourths

Check

Label each bar on the fraction model. Color each bar by a different color.



- **Complete.**
- Number of halves in one whole is ______
- Number of fifths in one whole is ______
- Number of sevenths in one whole is ______

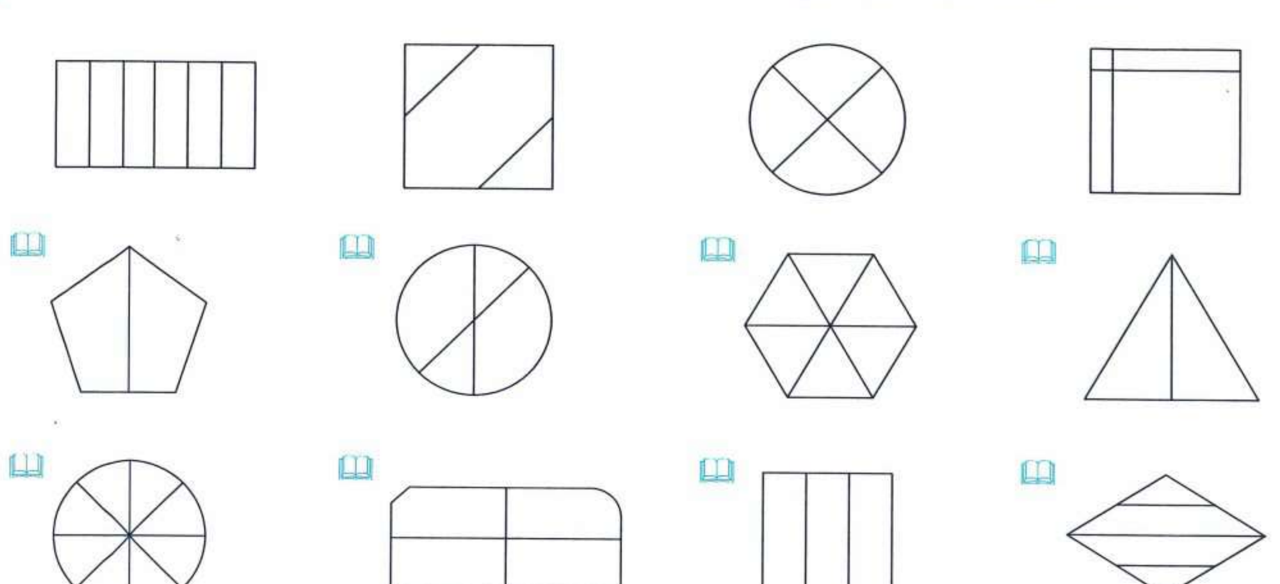
Notes for parents

- Help your child model unit fractions on a piece of paper. Let him/her label each bar and color it by a different color. Help him/her cut apart fraction models.

- **More fractions**
- **Exploring unit fractions**

From the school book

1 Circle the shapes that are divided into equal parts (Fair shares).



2 Match the picture of the fraction to its name.

a. • • Thirds

b. • • Fourths

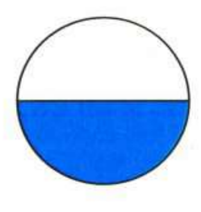
c. • • Sixths

d. • • Halves

e. • • Eighths

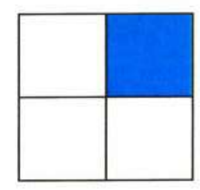
3 Write the fraction for the colored part of each shape.

a.



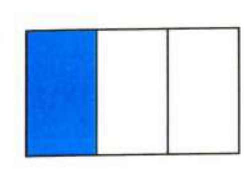
______

b.



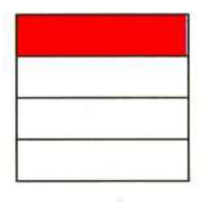
______

c.



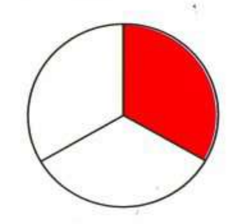
______

d.



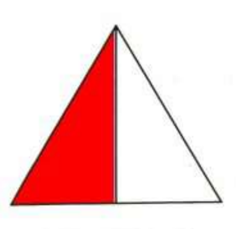
______

e.



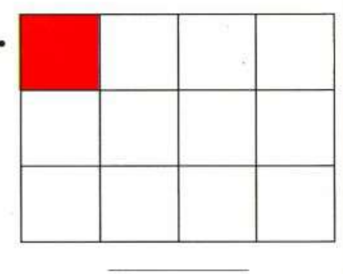
______

f.



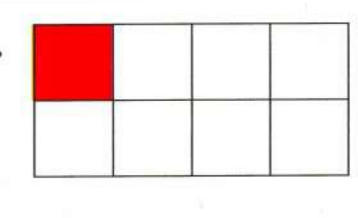
______

g.



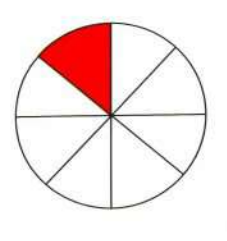
______

h.



______

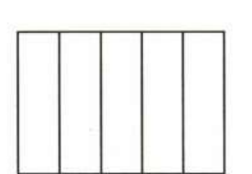
i.



______

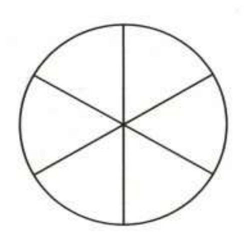
4 Color to show the fraction.

a.



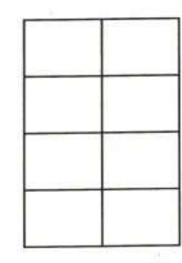
$\frac{1}{5}$

b.



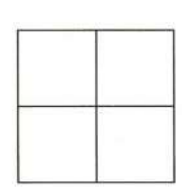
$\frac{1}{6}$

c.



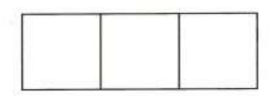
$\frac{1}{8}$

d.



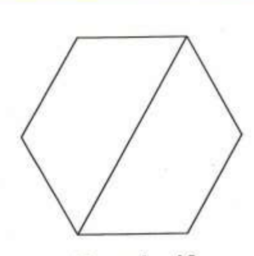
One fourth

e.



One third

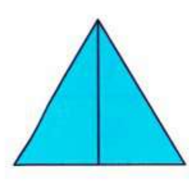
f.



One half

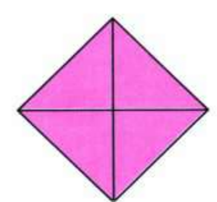
5 Does the picture show halves, thirds, fourths, or fifths ? Circle your answer.

a.



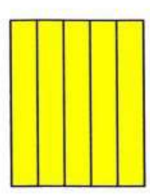
halves - thirds
fourths - fifths

b.



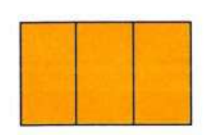
halves - thirds
fourths - fifths

c.



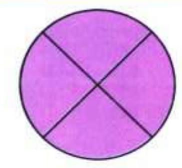
halves - thirds
fourths - fifths

d.



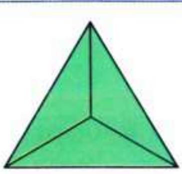
halves - thirds
fourths - fifths

e.



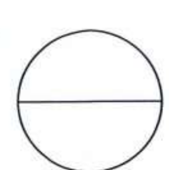
halves - thirds
fourths - fifths

f.



halves - thirds
fourths - fifths

6 Name the equal parts of each whole.

a. 

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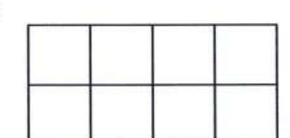
b. 

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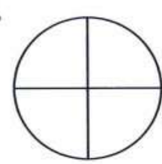
c. 

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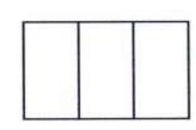
d. 

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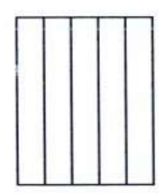
e. 

____

7 Match.

a.	A fraction, its numerator is 1, its denominator is 4.	$\frac{1}{3}$
b.	A fraction, its numerator is 1, its denominator is 3.	$\frac{1}{4}$
c.	A fraction, its numerator is 1, its denominator is 5.	$\frac{1}{2}$
d.	A fraction, its numerator is 1, its denominator is 2.	$\frac{1}{8}$
e.	A fraction, its numerator is 1, its denominator is 8.	$\frac{1}{5}$

8 Write the name of each fraction.

a. $\frac{1}{3}$ ________

b. $\frac{1}{2}$ ________

c. $\frac{1}{4}$ ________

9 Write the fraction.

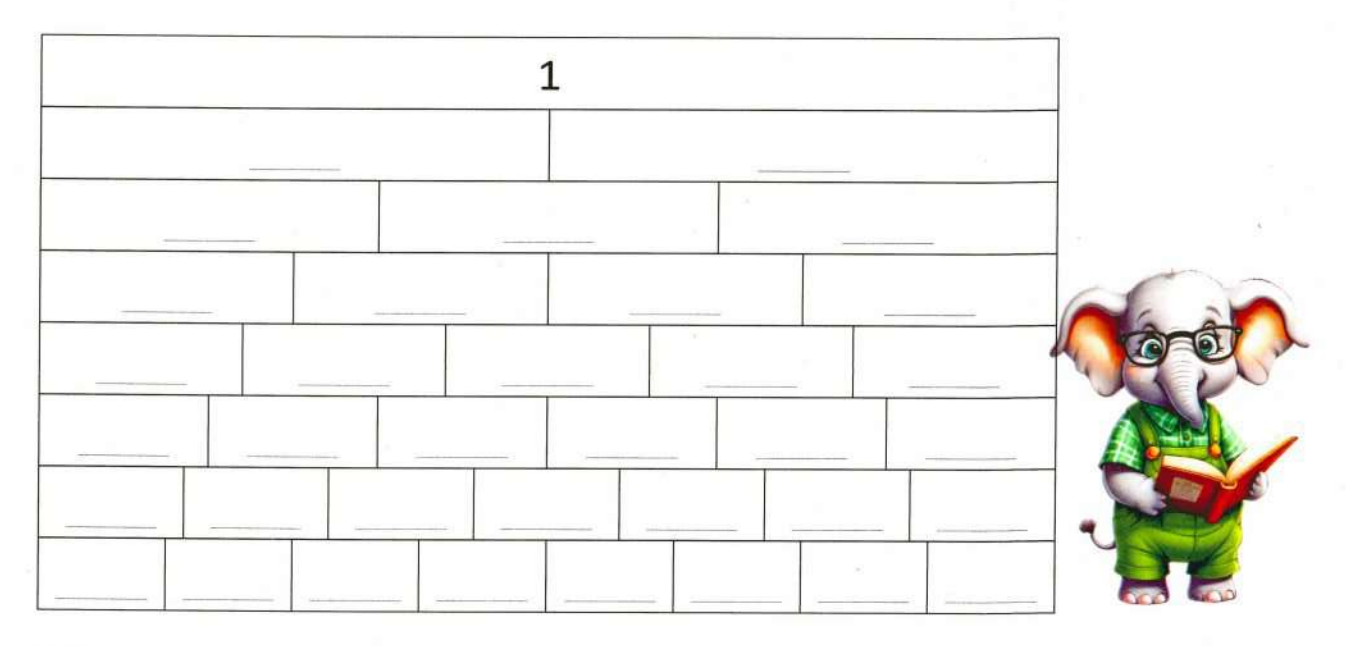
a. One fifth ______

b. A sixth ______

c. A seventh ______

d. A half ______

10 Label each bar on the fraction model. Color each bar by a different color.



• **Complete.**

a. Number of tenths in one whole is ______

b. Number of fifths in one whole is ______

c. Number of sevenths in one whole is ______

d. Number of eighths in one whole is ______

e. Number of sixths in one whole is ______

f. Number of ninths in one whole is ______

11 Divide the following shapes into the fractional parts listed below.

Example

Thirds

a. Halves

b. Fourths

c. Sixths

d. Fourths

e. Thirds

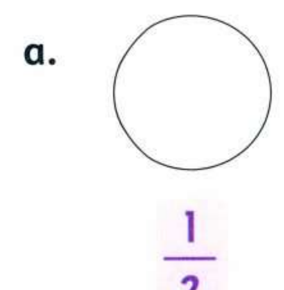
f. Fifths

g. Eighths

h. Halves

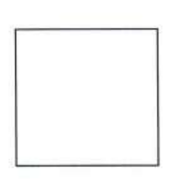
12 Draw a line or lines to show equal parts. Then color to show the fraction.

a.



$\frac{1}{2}$

b.



$\frac{1}{3}$

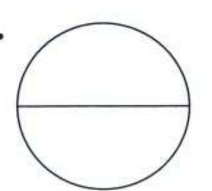
c.

$\frac{1}{4}$

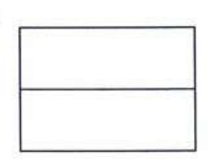
13 Draw a line to show fourths as the example.

Example

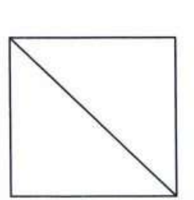
a.



b.

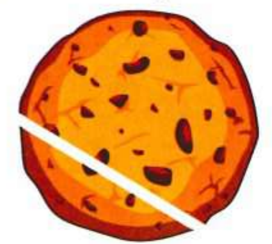
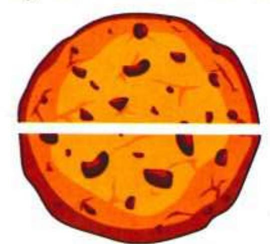


c.



14 Answer the following.

a. If 2 people want to share a cookie fairly, which image shows how they should cut the cookie ?

____

b. If 4 people want to share a cookie fairly, which image shows how they should cut the cookie ?

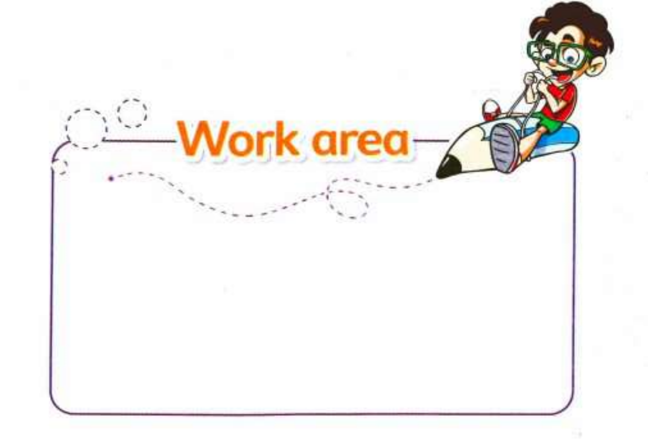
____

c. If 3 people want to share a cookie fairly, which image shows how they should cut the cookie ?

____

d. Draw lines on the cookie below to show where you might cut and share it fairly with 8 friends.

15 Show 3 different ways to divide a square into fourths.
You may use grid paper to help.



Lesson

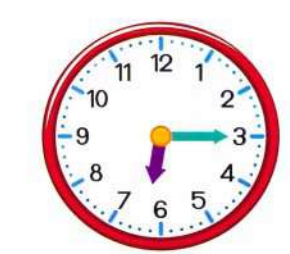
Applications on unit fractions using models

Connect Fractions on a clock

- The minute hand can divide a clock into equal parts. So, you can use fractions when you tell time.

Example

6:00



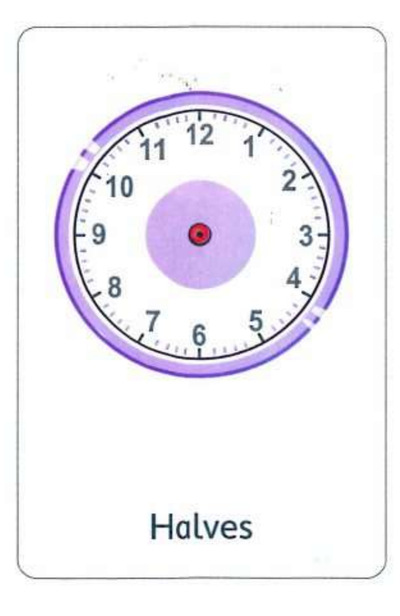
6:15
$\frac{1}{4}$ or quarter after 6

6:30
$\frac{1}{2}$ or half past 6

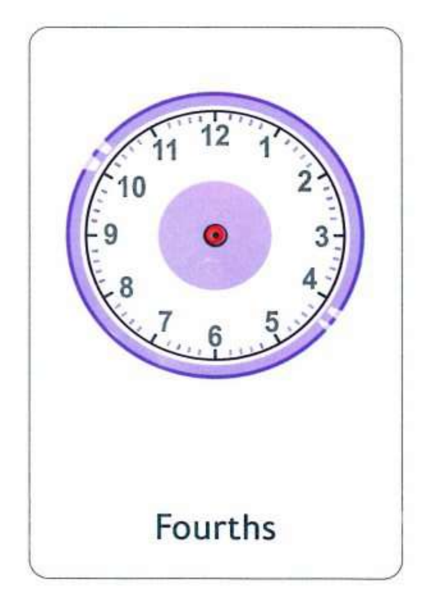
6:45
$\frac{1}{4}$ or quarter to 7

Check

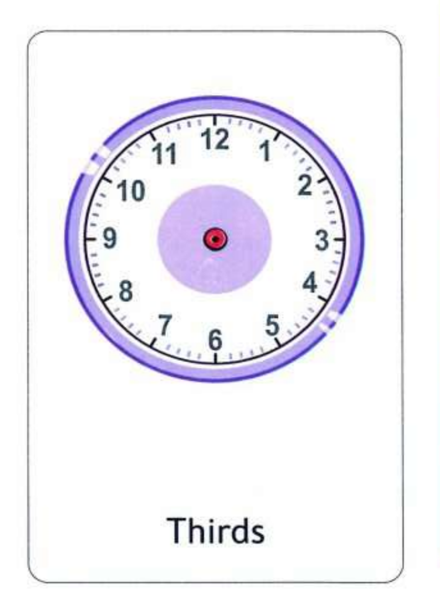
Divide each clock face into the fractional parts that are listed below each clock.



Halves



Fourths



Thirds

Notes for parents

- Help your child divide the clock face into thirds by draw lines from the center to 1 , 5 and 9.

Learn Applications on unit fractions using models

Sarah had a bar of chocolate. She divided it into 3 equals parts, and ate one of them.

What fraction of the chocolate did she eat ?

Make a model to solve.

The fraction of the chocolate she ate = $\frac{1}{3}$

Check

Yara has one apple. She cut it into four equal pieces.

She wants to share it with 3 of her friends.

Which fraction matches this story ?

Work area

The fraction is ______________

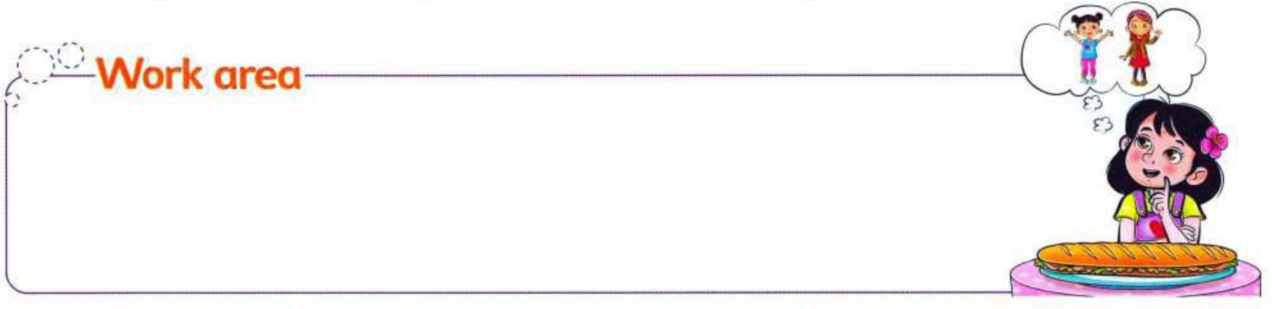
Notes for parents

- Ask your child to read the problem carefully and draw a model to solve it.

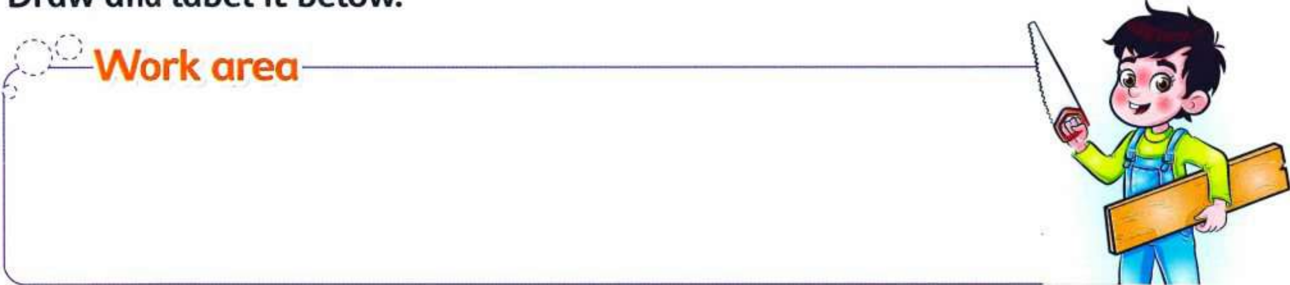
Applications on unit fractions using models

From the school book

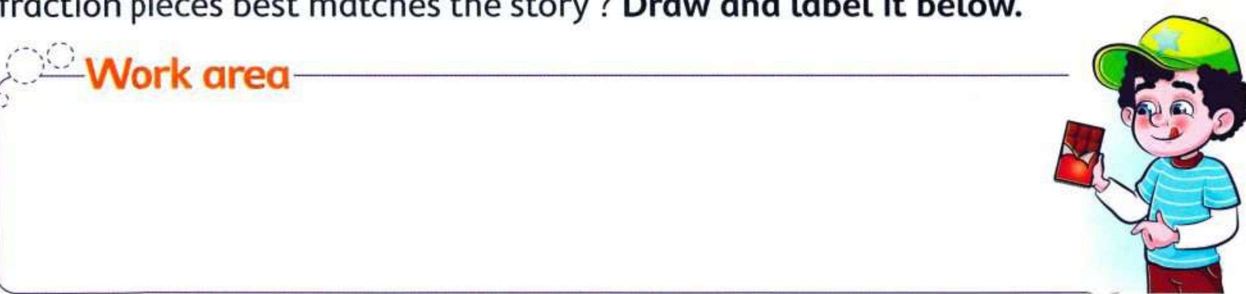
1 Noran has a long loaf of bread. She wants to share it with 2 of her friends. Which of your fraction strips best matches this story ? **Draw and label it below.**



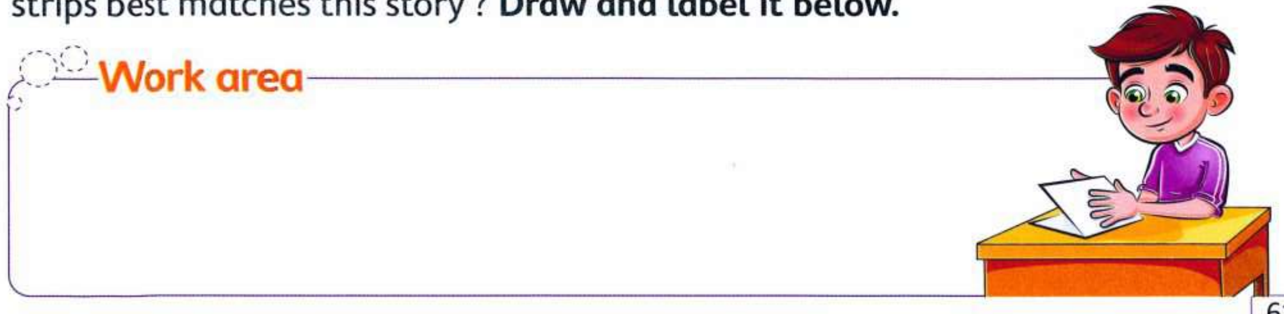
2 Rami has a long piece of wood. He needs to cut it into enough pieces to share with his 7 friends. Which of your fraction strips best matches this story ? **Draw and label it below.**



3 Samir had a candy bar. He took 2 days to eat it and ate the same amount each day. On Monday, he ate 1 piece. On Tuesday, he ate 1 more piece. Which of your fraction pieces best matches the story ? **Draw and label it below.**



4 To make a garage for his toy truck, Kamal bends a rectangular piece of cardboard in half. He then bends each half in half again. Which of your fraction strips best matches this story ? **Draw and label it below.**



5 Hany bends a different piece of cardboard in thirds. He then bends each third in half again. Which strip best matches this story ? **Draw and label it below.**

6 **Use the clock to answer each of the following questions.**

a. You can divide the clock into 2 equal parts by drawing a line from 12 to 6. You can also draw a line from 1 to 7 that divides the clock into 2 equal parts. In what other ways can you divide the clock into 2 equal parts ? Show them on the clock.

b. You can divide the clock into 3 equal parts. You can draw lines from the center to 1 , 5 and 9.What other lines can you draw to divide the clock into 3 equals parts ?

c. You can divide the clock into 4 equal parts. You can draw lines from the center to 4 , 7 , 10 and 1. What other lines can you draw to divide the clock into 4 equal parts ?

Challenge

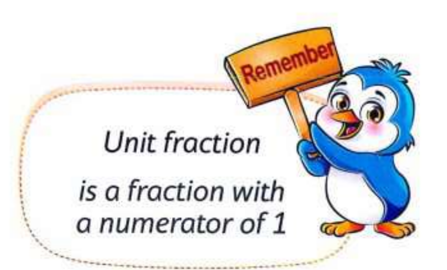
7 Heba had a long piece of string. She cut it into 8 equal parts. She gave 3 of the parts to her sister and 1 part to her brother.
What fraction of the string does Heba have left ?
In the box below, draw a strip that matches this story and label each part.
Color in the fraction that her sister gets red and the part her brother gets blue.

Work area

Place a smiley face

Lesson

Comparing unit fractions using models



Unit fraction is a fraction with a numerator of 1

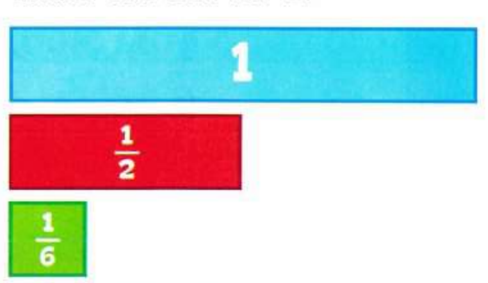
- You can use fraction strips to compare fractions.

For example :

To compare $\frac{1}{2}$ and $\frac{1}{6}$, do as follows :

Step 1

Line up $\frac{1}{2}$ and $\frac{1}{6}$ fraction strips under the bar for 1.



Step 2

Compare the size of fraction strips.

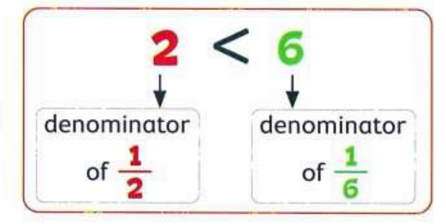
- The strip of $\frac{1}{2}$ is longer than the strip of $\frac{1}{6}$

So $\frac{1}{2} > \frac{1}{6}$

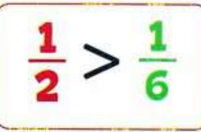
or $\frac{1}{6} < \frac{1}{2}$

From previous example notice that :

$\frac{1}{2}$ and $\frac{1}{6}$ have the same numerator (1) and



the result is

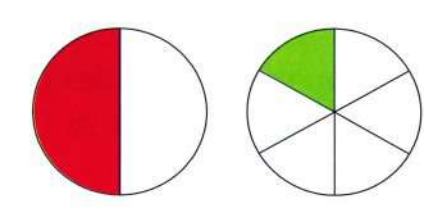


GENERALLY

When comparing unit fractions, the one with the lesser denominator is greater because the whole is divided into fewer pieces, so the pieces are larger.

If you work with a circle fraction models.

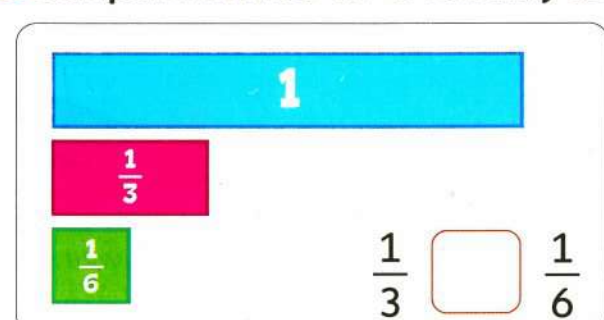
Is $\frac{1}{2}$ still larger than $\frac{1}{6}$?

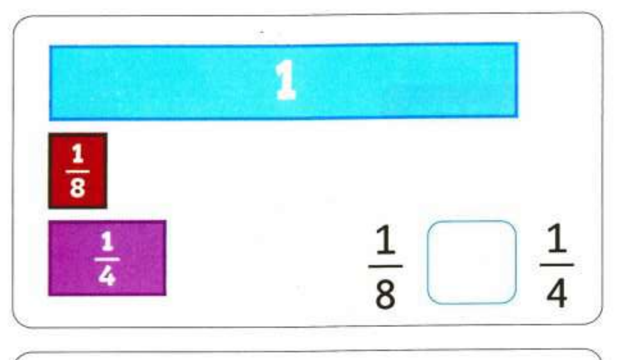


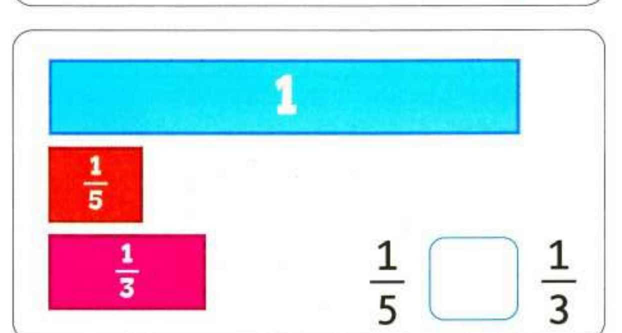
Notes for parents

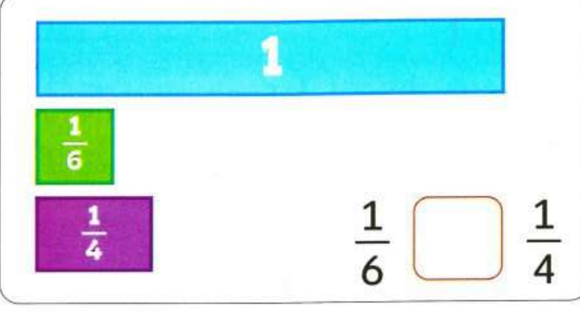
- Make sure that your child remembers to line up strips when he/she compare them.

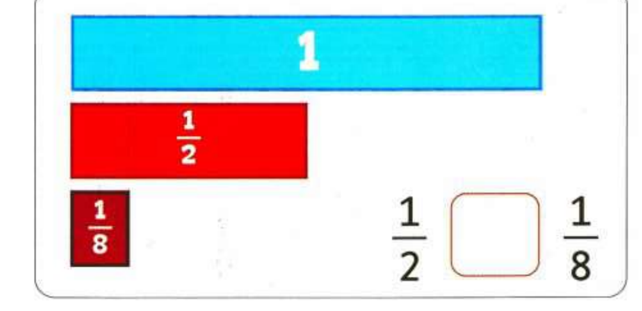
1. Compare. Write > or <. You may use fraction strips to help.

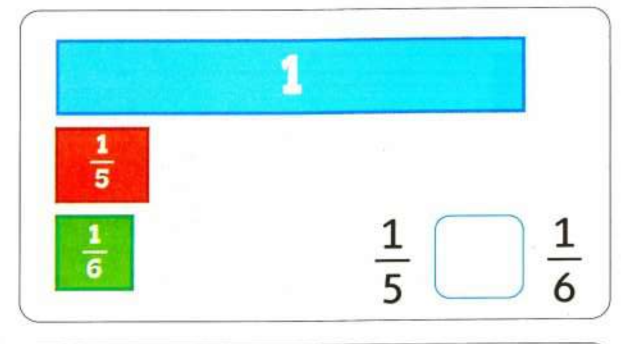


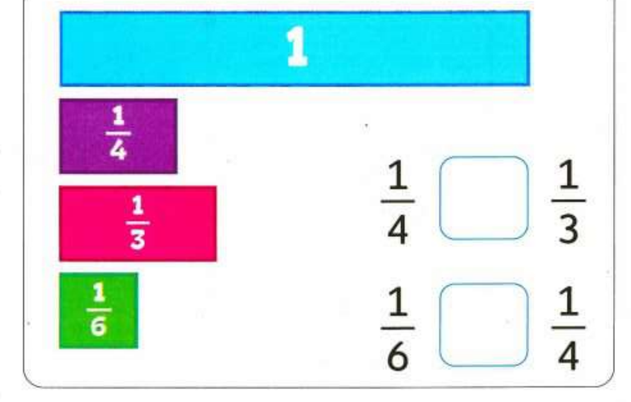


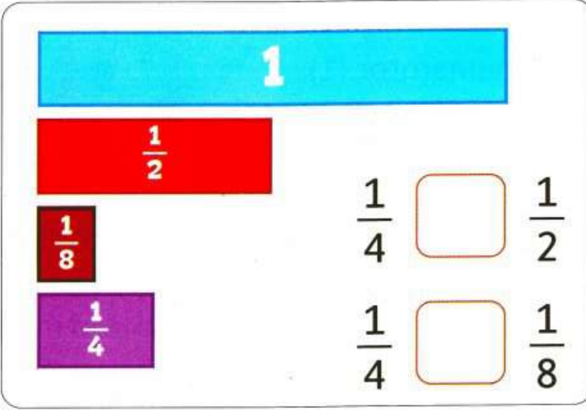












2. If you made a model for $\frac{1}{10}$, would it be bigger or smaller than $\frac{1}{8}$?
Why do you think so ?

Notes for parents

• Let your child compare fractions without using fraction strips. Ask him/her to compare first the denominator of the two fractions.

Exercise **8**

On Lesson 4

Comparing unit fractions using models

From the school book

1 Use the rectangles to compare fractions.

1							
$\frac{1}{2}$	$\frac{1}{2}$						
$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$					
$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$				
$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$			
$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$		
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$

Example

- **Compare $\frac{1}{3}$ and $\frac{1}{2}$.**

Think: The rectangle that shows $\frac{1}{3}$ is smaller than the rectangle that shows $\frac{1}{2}$ So, $\frac{1}{3} < \frac{1}{2}$

- Compare. Write <, > or =. Use the rectangles or fraction strips to help.

a. $\frac{1}{2}$ ☐ $\frac{1}{8}$

b. $\frac{1}{3}$ ☐ $\frac{1}{5}$

c. $\frac{1}{8}$ ☐ $\frac{1}{4}$

d. $\frac{1}{4}$ ☐ $\frac{1}{3}$

e. $\frac{1}{2}$ ☐ $\frac{1}{6}$

f. $\frac{1}{5}$ ☐ $\frac{1}{7}$

g. $\frac{1}{6}$ ☐ $\frac{1}{4}$

h. $\frac{1}{5}$ ☐ $\frac{1}{4}$

i. $\frac{1}{3}$ ☐ $\frac{1}{7}$

j. $\frac{1}{8}$ ☐ $\frac{1}{6}$

k. $\frac{1}{8}$ ☐ $\frac{1}{3}$

l. $\frac{1}{4}$ ☐ $\frac{1}{2}$

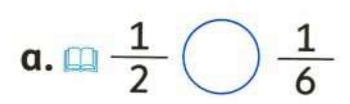
m. $\frac{1}{5}$ ☐ $\frac{1}{8}$

n. $\frac{1}{7}$ ☐ $\frac{1}{4}$

o. $\frac{1}{5}$ ☐ 1 whole

2 Use your fraction models to help you.

Compare fractions. Write < , > or = in the circle.



a. 📖 $\frac{1}{2}$ ◯ $\frac{1}{6}$

b. 📖 $\frac{1}{6}$ ◯ $\frac{1}{3}$

c. 📖 1 whole ◯ $\frac{1}{4}$

d. 📖 $\frac{1}{3}$ ◯ $\frac{1}{8}$

e. 📖 $\frac{1}{3}$ ◯ $\frac{1}{3}$

f. 📖 $\frac{1}{8}$ ◯ $\frac{1}{6}$

g. 📖 $\frac{1}{4}$ ◯ $\frac{1}{2}$

h. 📖 $\frac{1}{2}$ ◯ $\frac{1}{3}$

i. $\frac{1}{5}$ ◯ $\frac{1}{8}$

j. $\frac{1}{8}$ ◯ $\frac{1}{4}$

k. $\frac{1}{5}$ ◯ $\frac{1}{6}$

l. $\frac{1}{6}$ ◯ 1 whole

3 Choose.

a. $\frac{1}{4}$ > ________ ($\frac{1}{2}$ or $\frac{1}{3}$ or $\frac{1}{7}$)

b. $\frac{1}{5}$ < ________ ($\frac{1}{3}$ or $\frac{1}{5}$ or $\frac{1}{9}$)

c. $\frac{1}{7}$ > ________ ($\frac{1}{2}$ or $\frac{1}{3}$ or $\frac{1}{9}$)

d. ________ > $\frac{1}{4}$ ($\frac{1}{3}$ or $\frac{1}{5}$ or $\frac{1}{6}$)

e. ________ > $\frac{1}{3}$ ($\frac{1}{2}$ or $\frac{1}{3}$ or $\frac{1}{4}$)

f. One fifth = ________ ($\frac{1}{3}$ or $\frac{1}{5}$ or $\frac{1}{7}$)

g. One third < ________ ($\frac{1}{2}$ or $\frac{1}{8}$ or $\frac{1}{6}$)

h. One fourth > ________ ($\frac{1}{2}$ or $\frac{1}{3}$ or $\frac{1}{5}$)

i. $\frac{1}{__}$ < $\frac{1}{4}$ (2 or 3 or 5)

j. $\frac{1}{9}$ < $\frac{1}{__}$ (9 or 10 or 8)

4 **Circle all the fractions which are more than $\frac{1}{7}$**

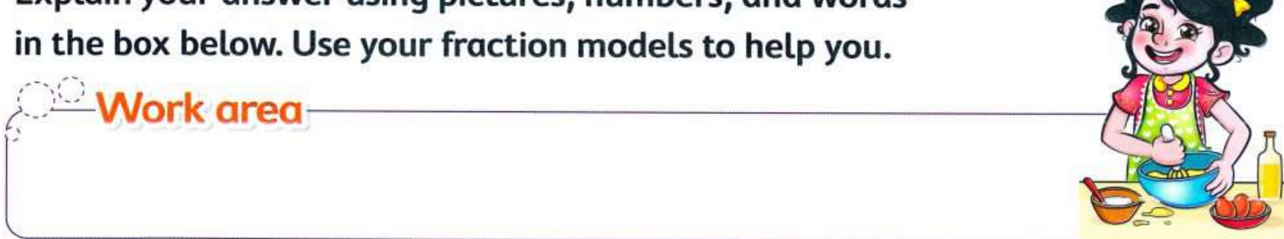
$\frac{1}{3}$ $\frac{1}{5}$ $\frac{1}{2}$ $\frac{1}{10}$ $\frac{1}{4}$ $\frac{1}{8}$ $\frac{1}{9}$ $\frac{1}{6}$ $\frac{1}{7}$ $\frac{1}{11}$ $\frac{1}{12}$

5 **Underline all the fractions which are less than $\frac{1}{5}$**

$\frac{1}{3}$ $\frac{1}{2}$ $\frac{1}{10}$ $\frac{1}{9}$ $\frac{1}{7}$ $\frac{1}{5}$ $\frac{1}{6}$ $\frac{1}{4}$ $\frac{1}{11}$ $\frac{1}{12}$ $\frac{1}{8}$

Story problems on comparing unit fractions

6 Rania needs $\frac{1}{3}$ L of oil and $\frac{1}{4}$ L of water to make a large batch of muffins.
Will Rania use more oil or more water ?
Explain your answer using pictures, numbers, and words in the box below. Use your fraction models to help you.



7 Ashraf needs to cut some wood for a project. He needs $\frac{1}{8}$ of a meter for the top and $\frac{1}{6}$ of a meter for the base. Which piece of wood will be larger ?
Explain your answer using pictures, numbers and words in the box below.

Work area

8 Bassem and Amgad ran on the track to see who could run farther without stopping.
Bassem ran $\frac{1}{5}$ of a kilometer and Amgad ran $\frac{1}{7}$ of a kilometer.
Who ran farther ? **Explain your answer using pictures, numbers and words in the box below.**

Work area

9 Mariam and Hanna climbed a rock wall. Mariam climbed $\frac{1}{4}$ of the wall and Hanna climbed $\frac{1}{8}$ of the wall. Who climbed higher ?

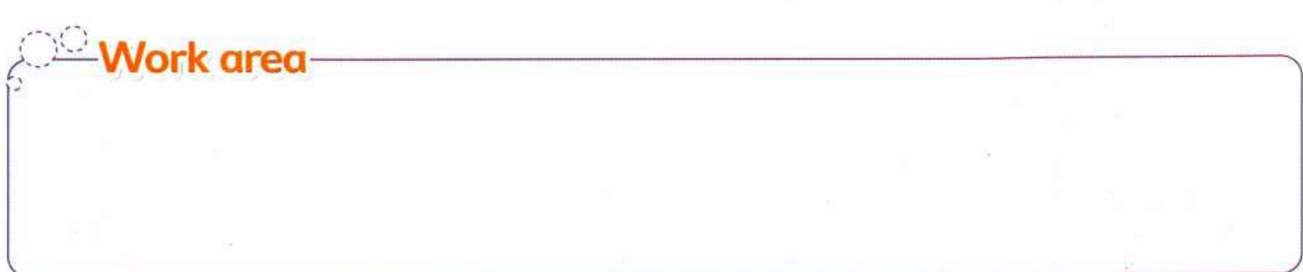
Explain your answer using pictures, numbers and words in the box below.

Work area

Challenge

10 Your friend Walid says that $\frac{1}{6}$ is greater than $\frac{1}{5}$ because 6 is greater than 5.

Is Walid correct ? Use words and pictures to explain in the box below.



Work area

11 **Order the fractions from least to greatest. Use fraction strips to order.**

a. $\frac{1}{2}, \frac{1}{8}, \frac{1}{4}$ Order is ______ , ______ , ______

b. $\frac{1}{12}, \frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{1}{9}$ Order is ______ , ______ , ______ , ______ , ______

12 **Order the fractions from greatest to least. Use fraction strips to order.**

a. $\frac{1}{7}, \frac{1}{4}, \frac{1}{2}$ Order is ______ , ______ , ______

b. $\frac{1}{3}, \frac{1}{10}, \frac{1}{9}, \frac{1}{4}$ Order is ______ , ______ , ______ , ______

Lesson 5

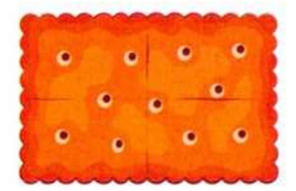
Which is bigger ?

Learn

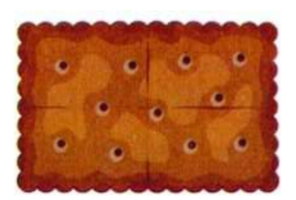
- The quantity represented by a fraction depends on the size of the whole.

First case **If the wholes have the same size.**

Bassem, Mina and Marwan have 3 crackers of the same size.
Each cracker has 4 equal parts.



Bassem's cracker



Mina's cracker

Marwan's cracker

How are the parts of the 3 crackers alike ? How are they different ?

- The parts of each cracker show $\frac{1}{4}$ of the cracker.
- $\frac{1}{4}$ of Mina's cracker has the ***same size*** and the ***same shape*** of $\frac{1}{4}$ Bassem's cracker.
- $\frac{1}{4}$ of Marwan's cracker has the ***same size*** of $\frac{1}{4}$ of Bassem's cracker, but they have ***different shape***.

Second case **If the wholes have different sizes.**

Amal and Bassma have 2 pies of different size.

Each pie has 3 equal parts

Is $\frac{1}{3}$ of Amal's fruit pie the same size as $\frac{1}{3}$ of Bassma's pie ? Why or why not ?

No, Bassma's whole pie is bigger.

So, $\frac{1}{3}$ of her pie is bigger.

Amal's pie

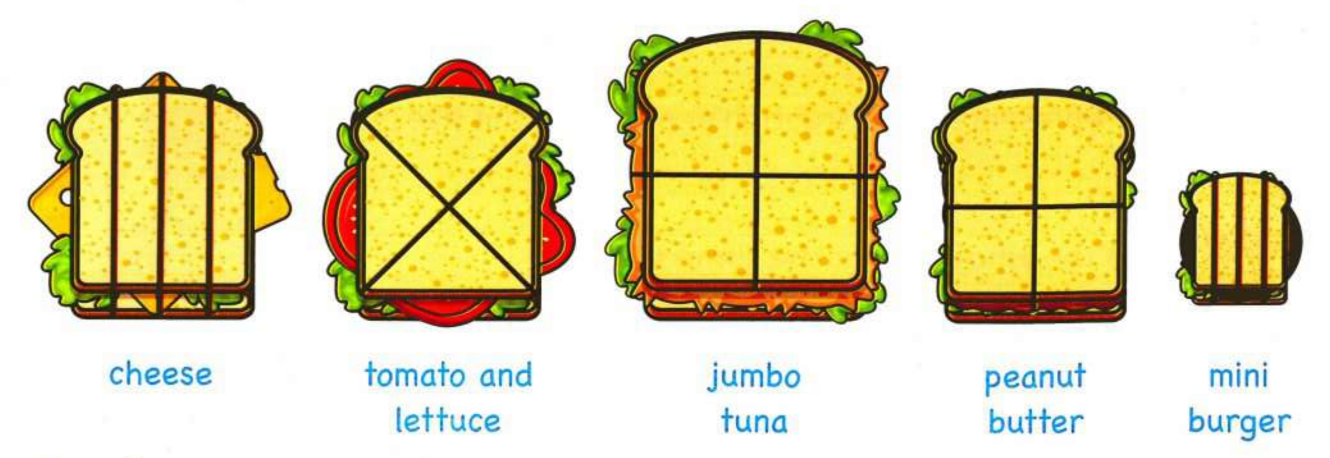
Bassma's pie

Notes for parents

- Revise with your child the concept of unit fraction. Draw a circle and divide it into equal parts. Shade one part and ask your child to write the fraction of the shaded part. Analyze your child answer.
- Ask your child to compare half of a large rectangle and half of a small rectangle.

Example

Look at the size of the bread slices in each of the sandwiches. Suppose each sandwich could be cut into 4 equal parts. Solve the problems.



1. Is $\frac{1}{4}$ of the jumbo tuna sandwich the same as, more than, or less than $\frac{1}{4}$ of the peanut butter sandwich ? More than

2. Is $\frac{1}{4}$ of the mini burger sandwich the same as, more than, or less than $\frac{1}{4}$ of the cheese sandwich ? Less than

3. Is $\frac{1}{4}$ of the cheese sandwich the same as, more than, or less than $\frac{1}{4}$ of the peanut butter sandwich ? the same

4. Is $\frac{1}{4}$ of the tomato and lettuce sandwich the same as, more than, or less than $\frac{1}{4}$ of the peanut butter sandwich ? the same

Check

Circle the correct answer.

- **Which is more ?**

  (Half of one piece of watermelon **or** half of one piece of orange)

- **Which is less ?**

  ($\frac{1}{8}$ of a large pizza **or** $\frac{1}{8}$ of a small pizza)

Notes for parents

- Ask your child to cut 2 food items into equal parts. Ask him/her which part is more.

Exercise
9
On Lesson 5

Which is bigger ?

From the school book

1 **Put (✓) for the correct statment or (✗) for the incorrect statment.**

a. Half of one piece of a lemon is more than half of one piece of an apple. ( )

b. Half of one piece of a watermelon is more than half of one piece of a mango. ( )

c. Half of a minute is less than a half of a day. ( )

d. Half of a bed is more than a half of chair. ( )

e. Half of one piece of a pizza is less than half of a cookie. ( )

2 **Circle the correct answers.**

a. Which is longer , **half of a lunchtime** or **half of Saturday** ?

b. Which is longer , **half of a minute** or **half of an hour** ?

c. Which is more , **half of a cookie** or **half of a cake** ?

d. Which holds more , **half of a glass for water** or **half of a swimming pool** ?

e. Which is more , **half of a liter** or **half of a milliliter** ?

Choose one of your answers above and explain your reasoning in the box below.

Work area

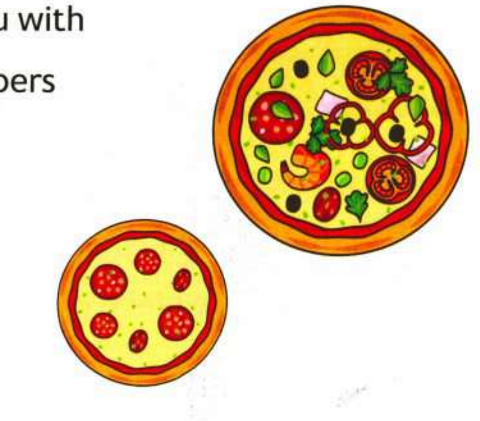
3 Kamal likes to eat a lot of pie.
His friend told him he could have $\frac{1}{2}$ of pie A or $\frac{1}{2}$ of pie B. Which pie should Kamal choose if he wants to eat a lot of pie ?
Explain your answer in the box below.

B

A

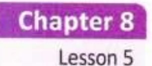
Work area

4 Two friends, each one of them baked a pizza for you with two different sizes, the smaller one with green peppers and the larger one with cheese, if you ate $\frac{1}{3}$ of the green peppers pizza and $\frac{1}{3}$ of cheese pizza. Will you eat the same amount of each pizza ?
Draw a picture and explain how $\frac{1}{3}$ of each pizza could be a different amount.



5 Moaaz picked 6 figs and put them in a basket. Adam picked 10 figs and put them in a basket. If you could have $\frac{1}{2}$ of either Moaaz's or Adam's basket, **which would you choose if you wanted the greatest number of figs ?**
Explain your answer in the box below.

6 Can you compare between half of a kilometer and half of a kilogram ?
Explain your answer.



Lesson 6

Expressing one using the unit fractions

- The rectangle is divided into 3 equal parts.
- Each part of the rectangle is $\frac{1}{3}$ of a whole.

$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$

$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$

$\frac{3}{3}$

- How many thirds would it take to make one whole rectangle ? 3
- In this case , what is the fraction that shows the whole rectangle ? $\frac{3}{3}$

More examples to show one whole.

$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$

$\frac{4}{4}$

$\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$

$\frac{6}{6}$

$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$

$\frac{8}{8}$

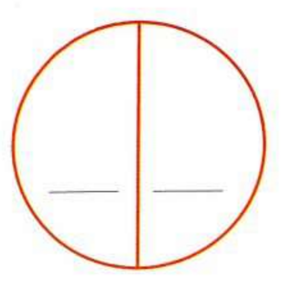
- **Make a prediction :**

  Do you have a prediction about how many fifths would make one whole ?

Notes for parents

- You may need to use fraction strips to help your child write one whole as a fraction.

Read the direction for each shape. Then , answer the questions.

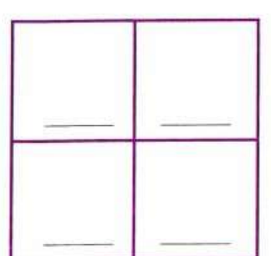


- Lablel the unit fractions for this circle.

  How many halves make one whole ? ________

  What is the fraction that shows the whole circle ?

  ____

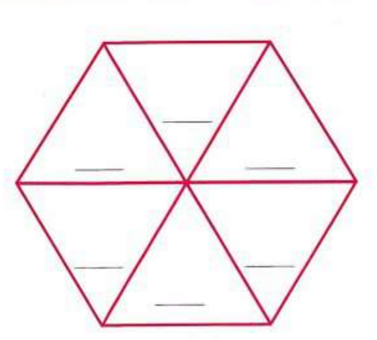


- Label the unit fractions for this square.

  How many fourths make one whole ? ________

  What is the fraction that shows the whole square ?

  ____

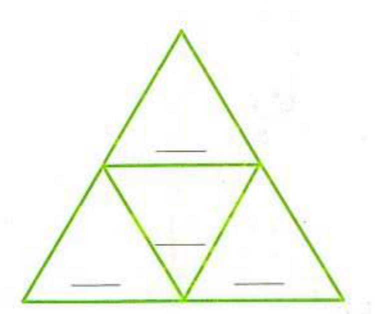


- Label the unit fractions for this hexagon.

  How many sixths make one whole ? ________

  What is the fraction that shows the whole hexagon ?

  ____



- Label the unit fractions for this triangle.

  How many fourths make one whole ? ________

  What is the fraction that shows the whole triangle ?

  ____

Notes for parents

- Let your child deduce that: $1 = \frac{2}{2} = \frac{3}{3} = \frac{4}{4} = ...$
- Ask your child additional questions as how many ninths does make one whole.

Exercise 10

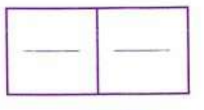
On Lesson 6

Expressing one using the unit fractions

From the school book

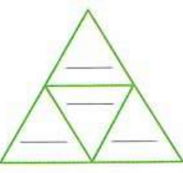
1 **Read the directions for each shape then, answer the question.**

a. Label the unit fractions for this rectangle.
How many halves make one whole ? ______



b. Label the unit fractions in this circle.
How many thirds make one whole ? ______

c. Label the unit fractions for this triangle.
How many fourths make one whole ? ______



d. How many eighths does make one whole ? ______

e. How many sixths does make one whole ? ______

f. How many twelveths does make one whole ? ______

g. How many twentieths does make one whole ? ______

2 **Complete.**

a. $1 = \frac{__}{3}$

b. $1 = \frac{7}{__}$

c. $1 = \frac{__}{9}$

d. $1 = \frac{8}{__}$

e. $1 = \frac{__}{6}$

f. $1 = \frac{13}{__}$

g. $1 = \frac{15}{__}$

h. $1 = \frac{10}{__}$

i. $1 = \frac{__}{20}$

j. $1 = \frac{17}{__}$

k. $1 = \frac{25}{__}$

l. $1 = \frac{__}{36}$

m. $1 = \frac{4}{__} = \frac{5}{__} = \frac{__}{9} = \frac{11}{__} = \frac{__}{17} = \frac{35}{__}$

3 Put (✓) to the correct statement or (✗) to the incorrect statement.

a. $1 = \frac{7}{8}$ ( )

b. $1 = \frac{10}{10}$ ( )

c. The number of sevenths that make one whole = 7 ( )

d. The number of fourths that make one whole = 8 ( )

e. The number of halves that make one whole = 2 ( )

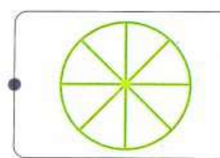
4 Match.

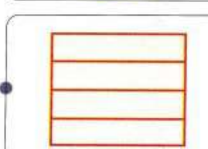
a. $\frac{5}{5}$ •

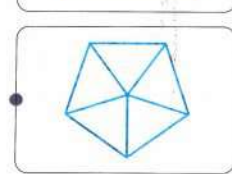
b. $\frac{8}{8}$ •

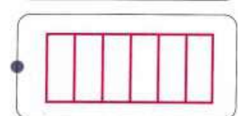
c. $\frac{6}{6}$ •

d. $\frac{4}{4}$ •









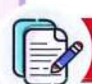
Challenge

5 Football Egyptian team represents each player as a unit fraction. Express the whole team as a fraction.

Place a smiley face

Lessons **7 to 9**

- **Relation between fractions and division**
- **More of the relation between fractions and division**
- **Applications on fractions**



Learn 1 Relation between fractions and division

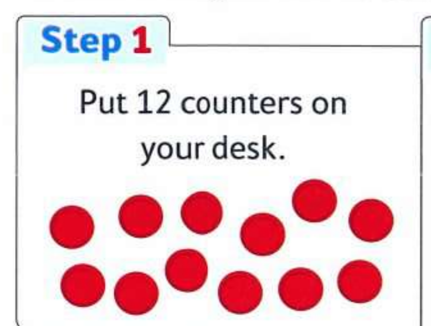
Twelve students signed up to play in a swimming tournament.
One third of the students who signed up are girls. How many girls will play in the swimming tournament ?

Find $\frac{1}{3}$ of 12

To find that you can follow the following steps :

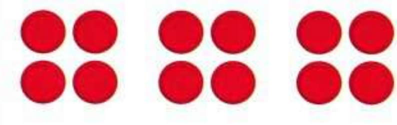
Step 1

Put 12 counters on your desk.



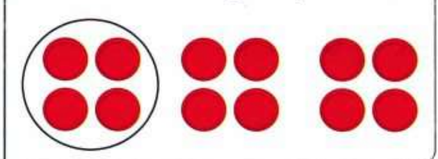
Step 2

Place the counters in 3 equal groups.



Step 3

Count the number in one of the 3 groups.



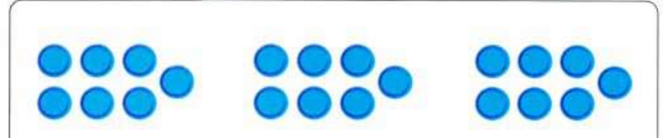
There are 4 counters in one group. $\frac{1}{3}$ of 12 = 4

So, 4 girls will play in the swimming tournament.

> *Math tip*
> *The denominator 3 , tells you to make 3 groups. The numerator 1 , tells you to count 1 of the groups.*

You can think about division to find a fraction of a number, for example :

Find $\frac{1}{3}$ of 21.

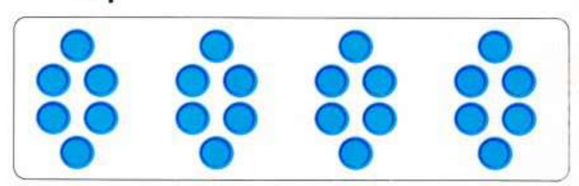


Divide 21 into 3 equal groups.

$21 \div 3 = 7$

$\frac{1}{3}$ of 21 is 7

Find $\frac{1}{4}$ of 24.



Divide 24 into 4 equal groups.

$24 \div 4 = 6$

$\frac{1}{4}$ of 24 is 6

Notes for parents

- Help your child make equal groups and then tell how many in one group.

Example

Complete.

a. To find $\frac{1}{4}$ of 12, divide 12 into ______ equal groups.

b. To find $\frac{1}{3}$ of 15, divide 15 into ______ equal groups.

c. If you divide 8 counters into fourths, each fourth has ______ counters.

d. If you divide 16 counters into halves, each half has ______ counters.

e. If you divide 24 counters into eighths, each eighth has ______ counters.

f. If you divide 21 counters into thirds, each third has ______ counters.

g. $\frac{1}{7}$ of 21 is ______

h. $\frac{1}{9}$ of 27 is ______

Remember

- The **denominator** tells how many equal groups to make. Divide the set by this number.
- The **numerator** tells how many of the groups to count.

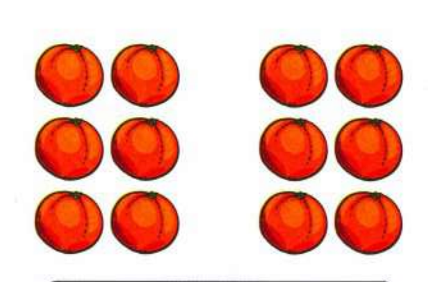
$\frac{1}{4}$ ← Numerator (1), ← Denominator (4)

Solution

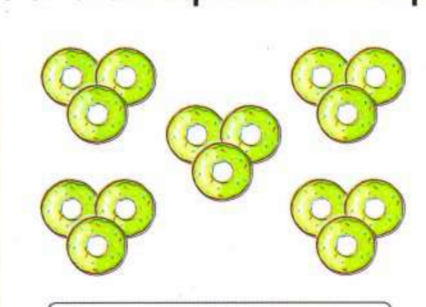
a. 4	**b.** 3	**c.** 2	**d.** 8
e. 3	**f.** 7	**g.** 3	**h.** 3

Check

Solve. You may use counters or draw a picture to help.



$\frac{1}{2}$ of 12 = ______



$\frac{1}{5}$ of 15 = ______

$\frac{1}{3}$ of 6 = ______

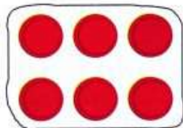
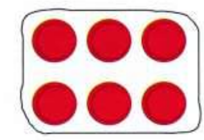
Notes for parents

- Help your child think about division to solve each problem in this page.

Learn 2 More of relation between fractions and division

Ahmad has 12 counters. He divided them into equal groups in different ways.

I divided them into 2 equal groups.

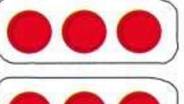
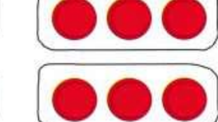



$12 \div 2 = 6$

12 was divided into 2 halves. Each half has 6 counters.

$\frac{1}{2}$ of 12 is 6

I divided them into 4 equal groups.

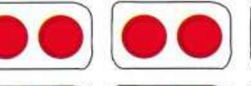
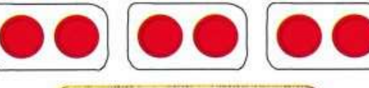



$12 \div 4 = 3$

12 was divided into 4 fourths. Each fourth has 3 counters.

$\frac{1}{4}$ of 12 is 3

I divided them into 6 equal groups.

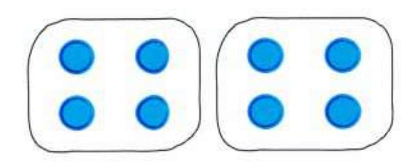
$12 \div 6 = 2$

12 was divided into 6 sixths. Each sixth has 2 counters.

$\frac{1}{6}$ of 12 is 2

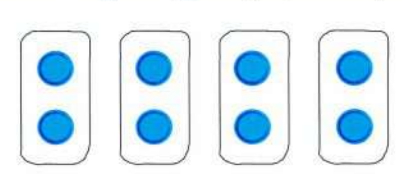
Check

Eight counters are divided into equal groups, complete.



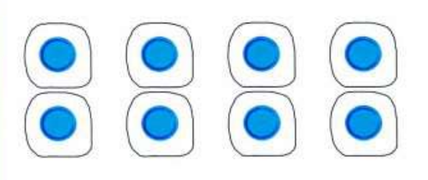
8 ÷ ______ = ______

The fraction that represents each group is ______



8 ÷ ______ = ______

The fraction that represents each group is ______



8 ÷ ______ = ______

The fraction that represents each group is ______

• Help your child make a connection between fractions and division.

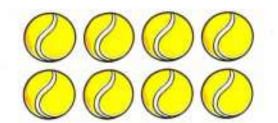
Exercise 11

On Lesson 7 to 9

- Relation between fractions and division
- More of the relation between fractions and division
- Applications on fractions

From the school book

1 Use the counters to find $\frac{1}{2}$ of 8.

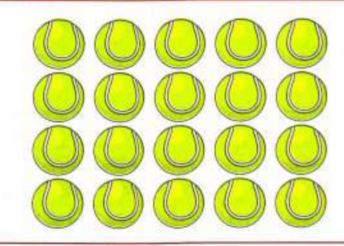


____

2 Use the counters to find $\frac{1}{3}$ of 18.

____

3 Use the counters to find $\frac{1}{4}$ of 20.



____

4 Solve. You may use counters or draw a picture to help.

a. Find $\frac{1}{2}$ of 18 ______	b. Find $\frac{1}{7}$ of 21 ______	c. Find $\frac{1}{4}$ of 8 ______
d. Find $\frac{1}{3}$ of 9 ______	e. Find $\frac{1}{6}$ of 18 ______	f. Find $\frac{1}{4}$ of 16 ______
g. Find $\frac{1}{8}$ of 24 ______	h. Find $\frac{1}{5}$ of 25 ______	i. Find $\frac{1}{3}$ of 27 ______
j. Find $\frac{1}{4}$ of 24 ______	k. Find $\frac{1}{6}$ of 6 ______	l. Find $\frac{1}{4}$ of 36 ______

5 Compare, write < , > or =.

a. $\frac{1}{6}$ of 24 ☐ $\frac{1}{4}$ of 12

b. $\frac{1}{3}$ of 18 ☐ $\frac{1}{5}$ of 25

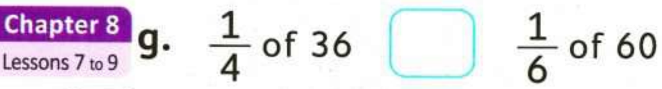
c. $\frac{1}{2}$ of 8 ☐ $\frac{1}{3}$ of 21

d. $\frac{1}{7}$ of 28 ☐ $\frac{1}{8}$ of 32

e. $\frac{1}{9}$ of 9 ☐ $\frac{1}{5}$ of 10

f. $\frac{1}{6}$ of 12 ☐ $\frac{1}{3}$ of 6

g. $\frac{1}{4}$ of 36 ☐ $\frac{1}{6}$ of 60



h. $\frac{1}{8}$ of 48 ☐ $\frac{1}{2}$ of 16

6 Put (✓) to the correct statement or (✗) to the incorrect statement.

a. $\frac{1}{3}$ of $3 = 9$ ( )

b. $\frac{1}{2}$ of $20 = 10$ ( )

c. $\frac{1}{5}$ of $35 < \frac{1}{3}$ of 24 ( )

d. $\frac{1}{6}$ of $18 = 3$ ( )

e. $16 \div 2 = 8$, then $\frac{1}{2}$ of $8 = 16$ ( )

7 Read and solve the following problems using your counters and fraction strips or circles. Draw a picture in the box to show your work. Then, fill in the blank in the sentence at the bottom of the box.

a. Divide 8 counters into fourths.

Work area

If I divide 8 counters into fourths, each fourth has ________ counters.

b. What is $\frac{1}{2}$ of 16 ?

Work area

If I divide 16 counters into halves, each half has ________ counters.

c. Divide 24 counters into eighths. How many counters would be in each fractional unit ?

Work area

If I divide 24 counters into eighths, each eighth has ________ counters.

d. What is a third of 21 ?

Work area

If I divide 21 counters into thirds, each third has ________ counters.

8 **Read the problems below. Show your work and your answers in the boxes. Mohamed has 12 apples to give away.**

a. If he splits the apples evenly between 2 friends, how many apples will each friend get ? What fraction of the whole would they each receive ?

Work area

b. What if he splits the apples evenly amoung 3 friends ? How many apples will each friend get ? What fraction of the whole would they each receive ?

Work area

c. Imagine he splits the apples evenly amoung 4 friends. How many apples will each friend get ? What fraction of the whole would they each receive ?

Work area

d. Now, Mohamed wants to split the apples evenly amoung 6 friends. How many apples will each friend get ? What fraction of the whole would they each receive ?

Work area

9 Four friends bought a pizza to share equally. What fraction of the pizza will each friend get?

"Write your answer as a division problem and as a fraction".

---

10 Omar bought a 6-pack of soda to give equally to his 6 guests. How many cans of soda will each guest receive ?

"Write your answer as a division problem and as a fraction of the 6-pack".

---

11 **Read and solve.**

a. Suppose you slept for $\frac{1}{3}$ of a day.

How much hours did you sleep ?

---

b. Summer lasts for $\frac{1}{4}$ of the year.

How many months does summer last ?

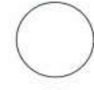
Challenge

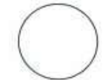
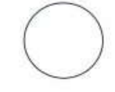
12 **Complete coloring circles to show the following.**

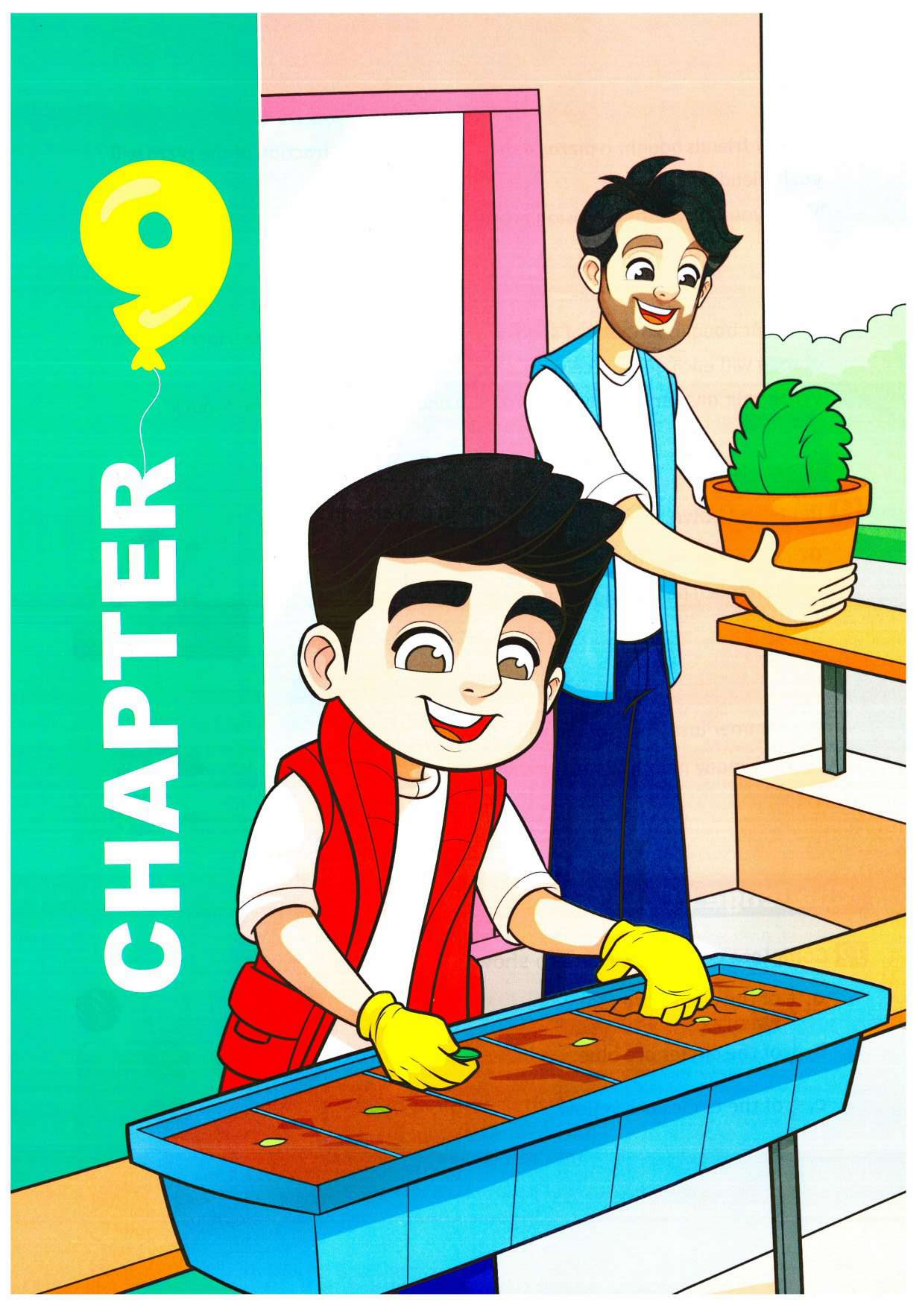
a. $\frac{1}{2}$ of the circles are red.

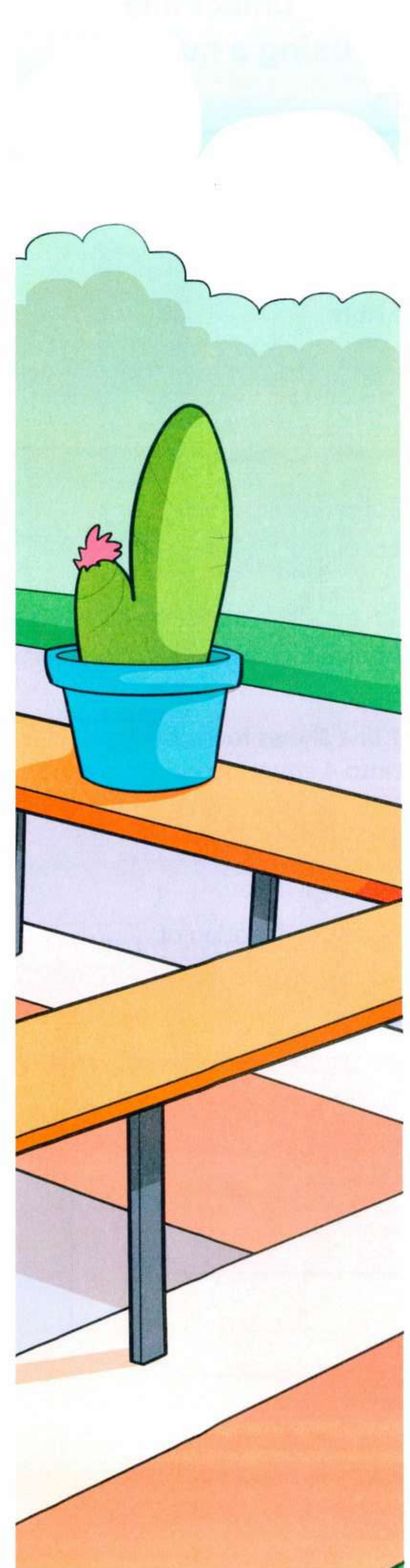
b. $\frac{1}{6}$ of the circles are blue.

c. $\frac{1}{3}$ of the circles are yellow.




CHAPTER
9



Outcomes of chapter nine :

At the end of chapter nine, your child will be able to:

▶ Lessons 1 & 2 :

- **Representing fractions on a number line**
- **Comparing unit fractions using a number line**
- Use models to show fractions on a number line.
- Show fractions on a number line to solve story problems.
- Given a fraction, explain the relationship between the number of equal parts on a number line and the denominator.
- Define numerator and denominator in his/her own words and provide examples.
- Locate unit fractions on a number line (0 to 1).
- Compare unit fractions on a number line between 0 and 1.

▶ Lessons 3 & 4 :

- **Comparing fractions using models**
- **Comparing fractions using a number line**
- Model fractions with numerators greater than 1.
- Divide a number line into a given number of equal parts.
- Locate proper fractions on a number line.
- Draw models of fractions using shapes or sets.
- Count forward and backward by fractions.
- Read and write proper fractions.
- Compare unit and proper fractions.

▶ Lesson 5 :

- **Comparing two fractions with the same numerator or denominator**
- Compare two fractions with the same denominator.
- Compare two fractions with the same numerator.
- Explain how to compare fractions.

▶ Lessons 6 & 7 :

- **Adding two fractions with the same denominator**
- **Subtracting two fractions with the same denominator**
- Add two fractions with the same denominator.
- Explain the importance of common denominators when adding fractions.
- Subtract fractions with the same denominator.
- Explain how to add and subtract fractions with common denominators.

▶ Lesson 8 :

- **Story problems on adding and subtracting fractions**
- Apply understanding of fractions to solve real-world problems.
- Write a real-world story problem involving fractions.

Lessons **1 & 2**

- **Representing fractions on a number line**
- **Comparing unit fractions using a number line**

Learn 1 How to represent fractions on a number line

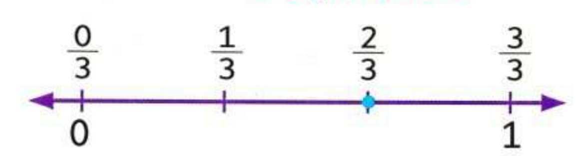
You can use a ruler to represent fractions on the number line.

(a) Draw a line. Mark 0 on the left and mark 1 on the right. The space from 0 to 1 represents 1 whole.

0 ———————— 1

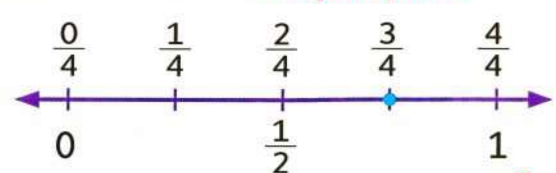
(b) The denominator of a fraction helps you to know the number of equal parts that you need to divide the space from 0 to 1.

This number line shows thirds.
It is divided into 3 equal parts.



The point shows the location of $\frac{2}{3}$.

This number line shows fourths.
It is divided into 4 equal parts.



The point shows the location of $\frac{3}{4}$.

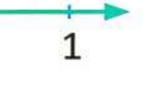
Check

Represent each of the following on a number line.

1. Halves

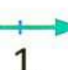
0 ———————— 1

2. Fifths



0 ———————— 1

3. Sixths



0 ———————— 1

Notes for parents

- Although you have not yet introduced proper fractions beyond unit fractions, allow your child to label number lines with non-unit fractions (for example, $\frac{2}{4}$ and $\frac{3}{4}$). This will help him/her build familiarity with other fractions and their relationship to unit fractions.

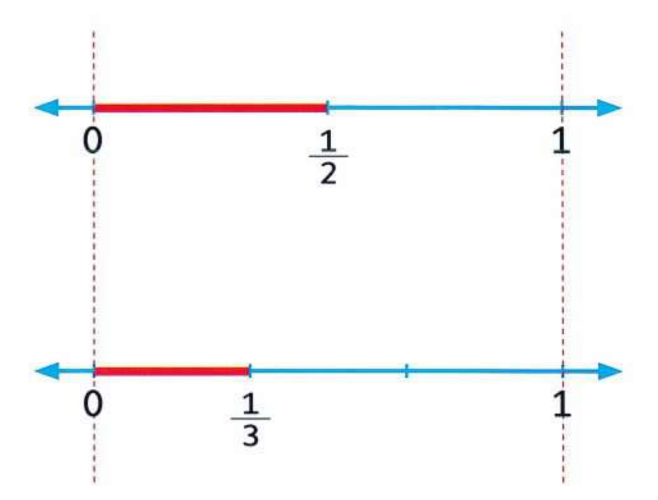
Learn 2 Comparing unit fractions using a number line

- **You studied before how to compare unit fractions using fraction strips. In this lesson, you will compare fractions using number line.**

Example : Compare $\frac{1}{2}$ and $\frac{1}{3}$

To compare $\frac{1}{2}$ and $\frac{1}{3}$, do as follows :

- **Draw a number line.**
  Mark and label the points of 0 and 1, and then divide the distance between them into halves and label $\frac{1}{2}$.



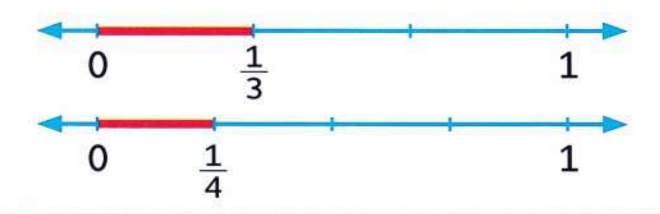
- **Draw another number line below.**
  Be sure the points that correspond to 0 and 1 line up directly beneath one other. Divide the distance between 0 and 1 into thirds and label $\frac{1}{3}$.

Since the distance from the point 0 to the point $\frac{1}{2}$ is greater than the distance from the point 0 to the point $\frac{1}{3}$, then $\boxed{\frac{1}{2} > \frac{1}{3}}$

Check

Use the number lines to compare the fractions. Write < or >.

$\frac{1}{3}$ ☐ $\frac{1}{4}$



$\frac{1}{8}$ ☐ $\frac{1}{4}$

0 $\frac{1}{8}$ 1

0 $\frac{1}{4}$ 1

• Ask your child to compare $\frac{1}{2}$ and $\frac{1}{3}$ using fractions strips.

Exercise 12

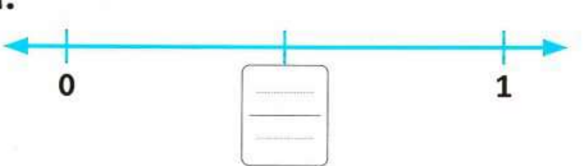
On Lessons 1&2

- **Representing fractions on a number line**
- **Comparing unit fractions using a number line**

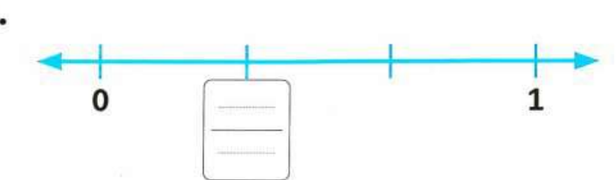
From the school book

1 Write the fraction on the number line.

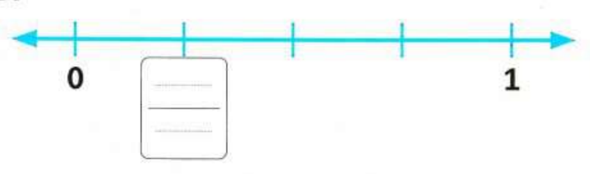
a.



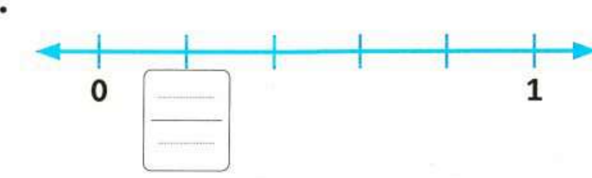
b.



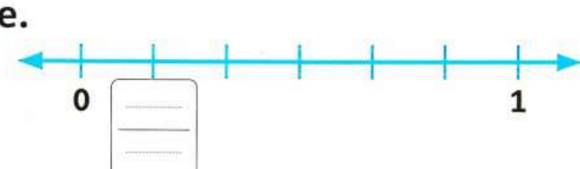
c.



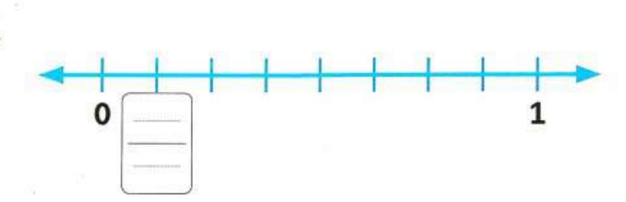
d.



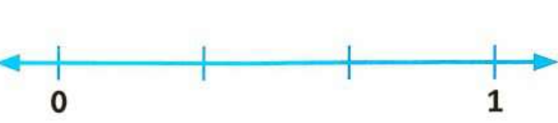
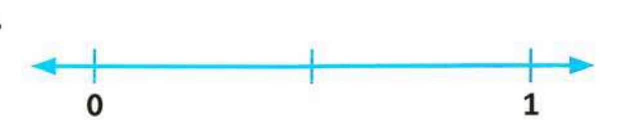
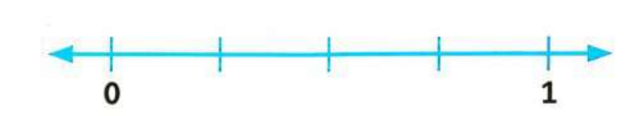
e.



f.



2 Read the stories below. Then, draw a line matching each story to the number line that you could use to solve the problem.

Stories	Number Line Models
1. Aya had a rope. She needed $\frac{1}{2}$ of it for a project.	a. 
2. Omar had a meter of wood. He needed $\frac{1}{3}$ of the meter for a bird house.	b. 
3. Sara was sewing beads onto a meter of ribbon. She wanted to sew a bead on each $\frac{1}{4}$ of the ribbon.	c. 

3 **Represent each of the following on the number line.**

a. Thirds

0 — 1

b. Fifths

0 — 1

c. Halves

0 — 1

d. Fourths

0 — 1

e. Sixths

0 — 1

f. Sevenths

0 — 1

4 **Draw. a.** A number line and represent eighths.

Work area

b. A number line and represent tenths.

Work area

c. A number line and represent ninths.

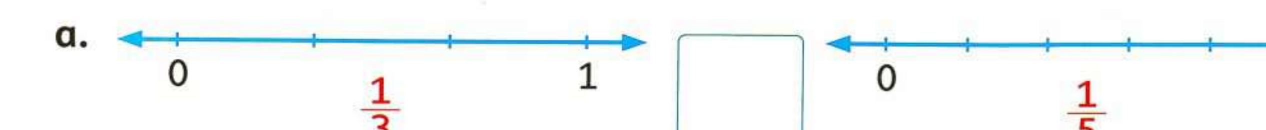
Work area

d. A number line and represent twelveths.

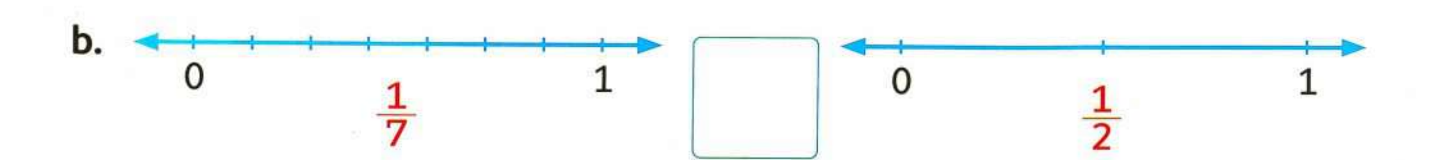
Work area

5 Represent each fraction on the number line, then compare using < , > or =.

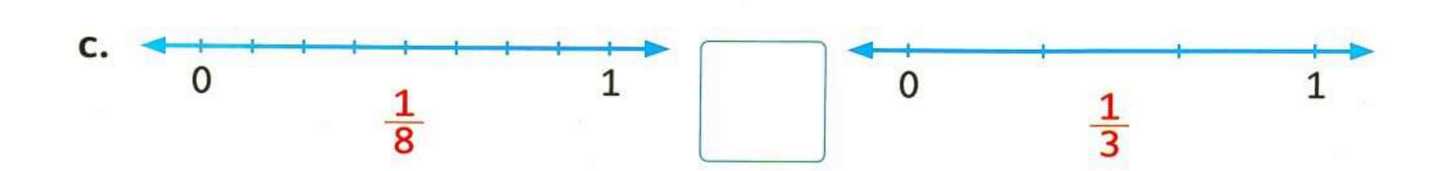
a.



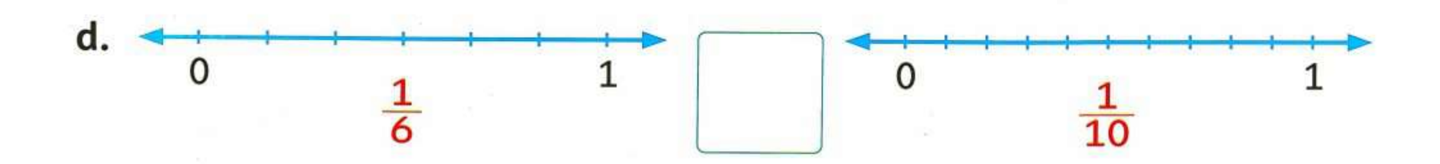
b.



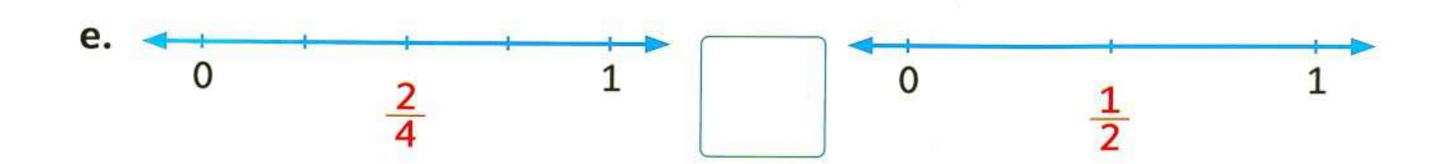
c.



d.

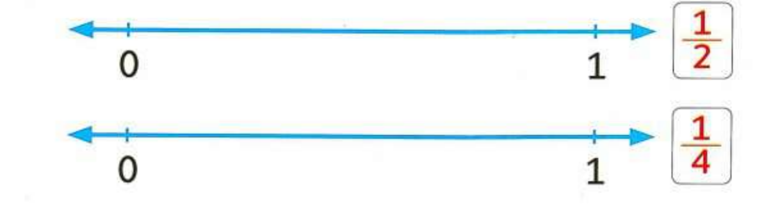


e.

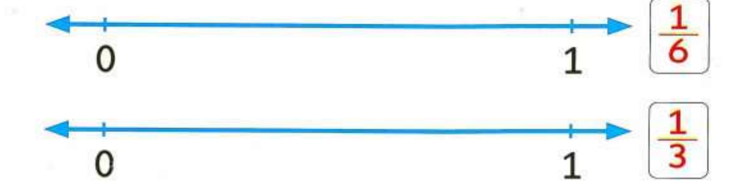


6 Use the number line to compare between two fractions. Write < or >.

a. $\frac{1}{2}$ ☐ $\frac{1}{4}$



b. $\frac{1}{6}$ ☐ $\frac{1}{3}$



c. $\frac{1}{4}$ ☐ $\frac{1}{8}$

0 ——— 1 $\frac{1}{4}$

0 ——— 1 $\frac{1}{8}$

---

d. $\frac{1}{2}$ ☐ $\frac{1}{3}$

0 ——— 1 $\frac{1}{2}$

0 ——— 1 $\frac{1}{3}$

---

e. $\frac{1}{2}$ ☐ $\frac{1}{8}$

0 ——— 1 $\frac{1}{2}$

0 ——— 1 $\frac{1}{8}$

---

f. $\frac{1}{4}$ ☐ $\frac{1}{10}$

0 ——— 1 $\frac{1}{4}$

0 ——— 1 $\frac{1}{10}$

---

g. $\frac{1}{8}$ ☐ $\frac{1}{6}$

0 ——— 1 $\frac{1}{8}$

0 ——— 1 $\frac{1}{6}$

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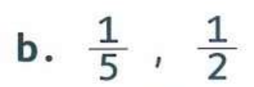
7 Circle the smaller fraction.
"You may draw number line to compare between fractions".

Work area

a. $\frac{1}{3}$, $\frac{1}{7}$



b. $\frac{1}{5}$, $\frac{1}{2}$

c. $\frac{1}{4}$, $\frac{1}{3}$

d. $\frac{1}{6}$, $\frac{1}{10}$

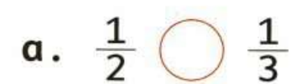
e. $\frac{1}{7}$, $\frac{1}{8}$

f. $\frac{1}{2}$, $\frac{1}{3}$

8 Compare using "< or >".

"You may draw number line to compare between fractions".

Work area



a. $\frac{1}{2}$ ◯ $\frac{1}{3}$

b. $\frac{1}{5}$ ◯ $\frac{1}{4}$

c. $\frac{1}{4}$ ◯ $\frac{1}{7}$

d. $\frac{1}{3}$ ◯ $\frac{1}{6}$

e. $\frac{1}{8}$ ◯ $\frac{1}{5}$

f. $\frac{1}{10}$ ◯ $\frac{1}{2}$

9 **Read each problem.**

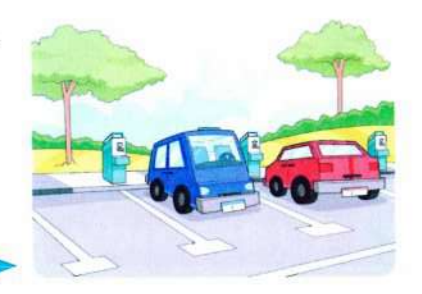
a. Ali needs to wrap presents.
He lays the ribbon flat and says,
"If I make 3 equally spaced cuts,
I will have just enough pieces.
I can use 1 piece for each present."
Draw a number line to show Ali's ribbon and
the cuts he will make :

- **How many presents can Ali wrap ?** ______
- **What fraction of the whole ribbon is used for each present ?** ______

b. Mariam is planting flowers in her 1-meter-long rectangular plant box.
She divides the plant box into sections $\frac{1}{8}$ of a meter in length.
She then plants 1 seed in each section.
Draw and label a number line representing
the plant box from 0 meters to 1 meter.

- **How many seeds can Mariam plant ?** ______

c. At the park, there was a straight 1-kilometer path. Every $\frac{1}{6}$ of the path, there was a drinking fountain. Use the number line to identify where each drinking fountain was located.



0 ——————————————— 1

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d. Ziad wanted to cut a 1-meter piece of rope into equal pieces for his 4 friends.
Draw a number line to show how he could cut the rope.

- **What fraction of the rope does each friend get ?** ______

---

e. Tamir and Rana went on a 1-kilometer walk with their little sister. They stopped every $\frac{1}{8}$ of a kilometer to let the sister rest.
Draw a number line to show the spots along the line where they stopped.

- **How many times did Tamir and Rana have to stop ?** ______

Challenge

10 Omar told his sister that $\frac{1}{9}$ is larger than $\frac{1}{8}$ because 9 is more than 8.
Do you agree or disagree with Omar ? Circle on : Agree - Disagree
Prove your thinking by drawing number lines to compare.

$\frac{1}{9}$ ○ $\frac{1}{8}$

Place a smiley face

Lessons 3 & 4

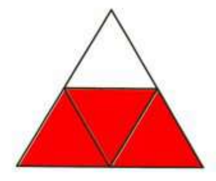
• Comparing fractions using models
• Comparing fractions using a number line

Pre-study What is a proper fraction ?

- A proper fraction is a fraction its numerator is less than its denominator.

Note : The unit fractions are also proper fractions.

Examples for proper fractions :

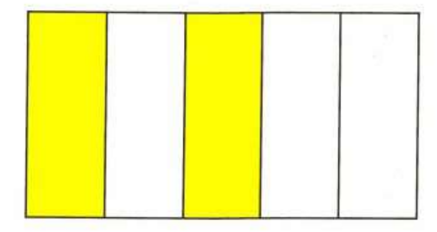


3 parts are red.

4 equal parts.

$\frac{3}{4}$ is red.

(Three fourths are red)



2 parts are yellow.

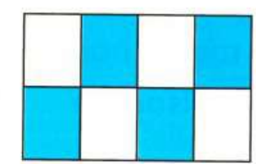
5 equal parts.

$\frac{2}{5}$ is yellow.

(Two fifths are yellow)

Check

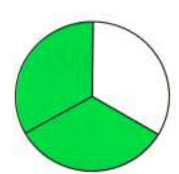
Write the fraction for the colored part of the shape.



______ parts are blue.

______ equal parts.

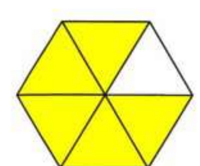
______ is blue.



______ parts are green.

______ equal parts.

______ is green.



______ parts are yellow.

______ equal parts.

______ is yellow.

Notes for parents

- Draw a square and divide it into 4 equal parts. Color 3 of the parts. Have your child name the fraction that tells how much of the whole is colored.

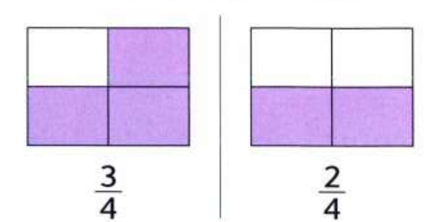
Learn 1 Comparing fractions using models

- You can draw models of fractions using shapes to compare fractions.

Example 1 :

The colored parts for $\frac{3}{4}$ are greater than the colored parts for $\frac{2}{4}$

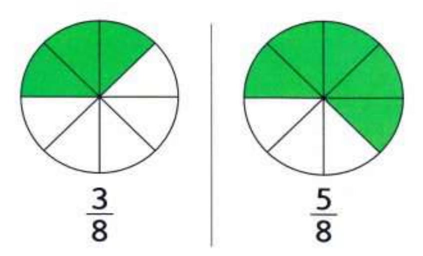
So, $\frac{3}{4} > \frac{2}{4}$



Example 2 :

The colored parts for $\frac{3}{8}$ are smaller than the colored parts for $\frac{5}{8}$

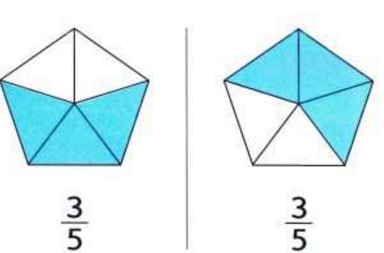
So, $\frac{3}{8} < \frac{5}{8}$



Example 3 :

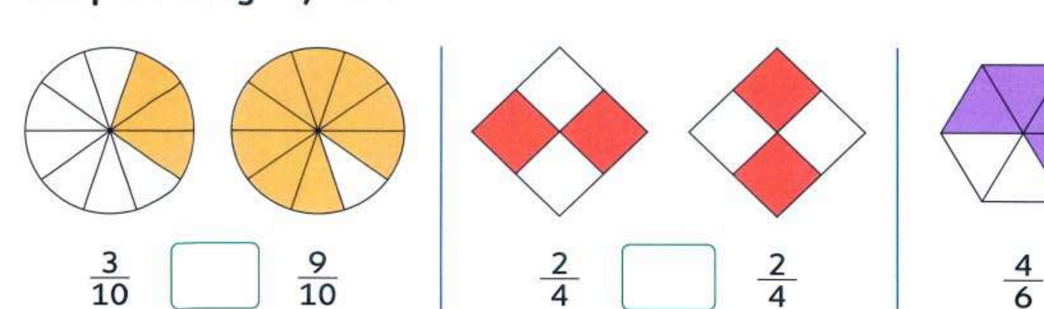
The colored parts for $\frac{3}{5}$ in the two shapes are equal

So, $\frac{3}{5} = \frac{3}{5}$



Check

Compare using ">,= or<".



$\frac{3}{10}$ ☐ $\frac{9}{10}$ $\frac{2}{4}$ ☐ $\frac{2}{4}$ $\frac{4}{6}$ ☐ $\frac{3}{6}$

• Ask your child to show $\frac{2}{8}$ using model .

Learn 2 Comparing fractions using a number line

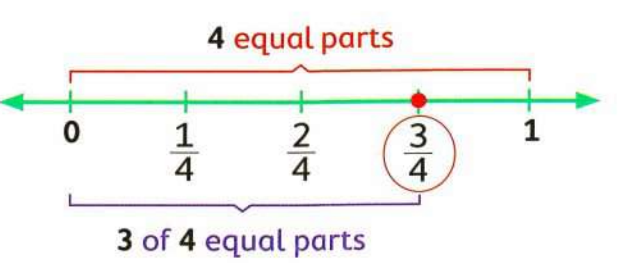
- Remember that you can divide the distance from **0** to **1** into equal parts and locate fractions on the number line.

Example :

Locate $\frac{3}{4}$ on a number line.

To locate $\frac{3}{4}$ on a number line, divide the distance from **0** to **1** into **4** equal parts.

Locate a point to show **3** of the **4** equal parts.



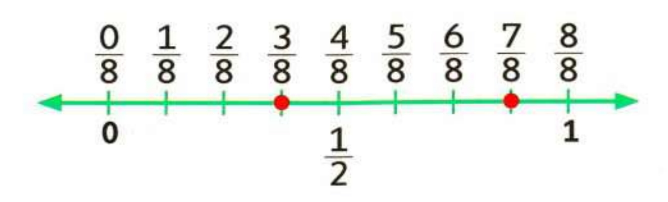
- You can use the number line to compare fractions.

The number line represents values in ascending order from left to right. It means that the fraction which is marked on the left side is smaller than the fraction on its right.

Example :

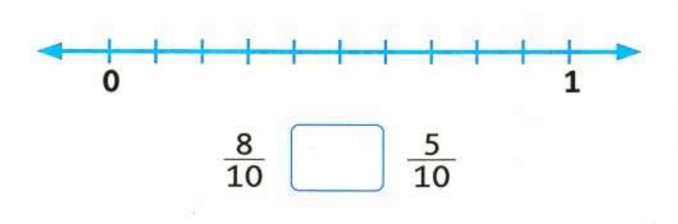
$\frac{3}{8}$ is on the left of $\frac{7}{8}$

So, $\frac{3}{8} < \frac{7}{8}$

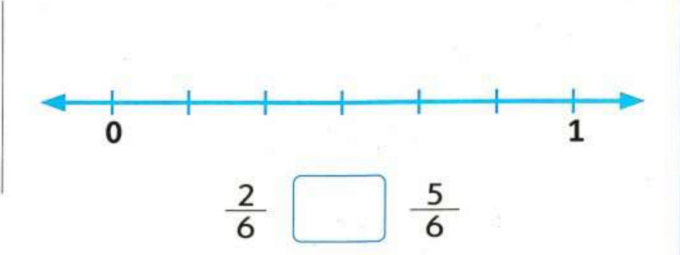


Check

Locate a point to represent each fraction on the number line. Compare using "> or <".



$\frac{8}{10}$ ☐ $\frac{5}{10}$



$\frac{2}{6}$ ☐ $\frac{5}{6}$

Notes for parents

- Ask your child to compare $\frac{4}{6}$ and $\frac{5}{6}$ using different ways.

Exercise 13

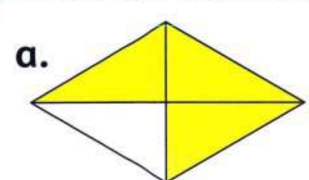
On Lessons 3&4

• Comparing fractions using models
• Comparing fractions using a number line

From the school book

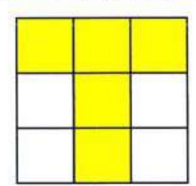
1 Write the fraction for the colored part of each of the following shapes.

a.



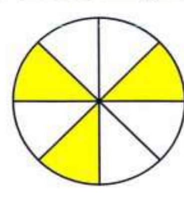
______

b.



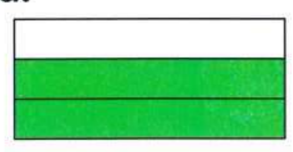
______

c.



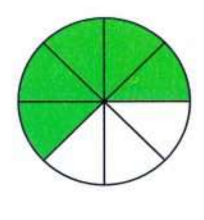
______

d.



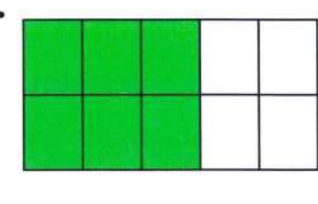
______

e.



______

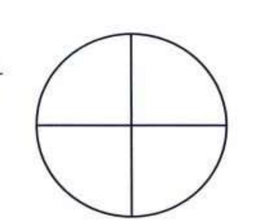
f.



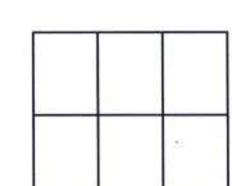
______

2 Color to show each of the following fractions.

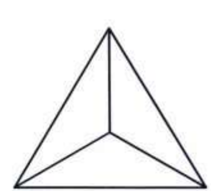
a. $\frac{2}{4}$



b. $\frac{5}{6}$

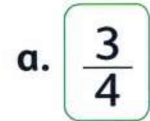


c. $\frac{2}{3}$



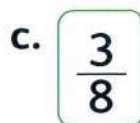
3 Draw at least one model for the following fractions.

a.



b. $\frac{4}{6}$

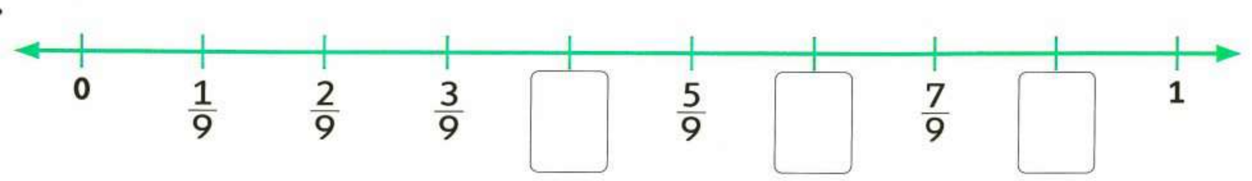
c.



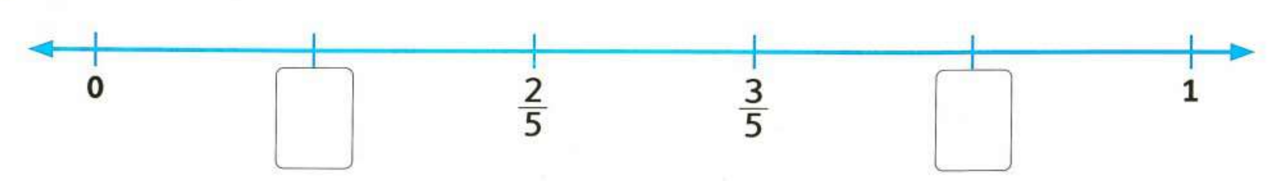
d. $\frac{2}{3}$

4 Complete the missing fractions in each number line.

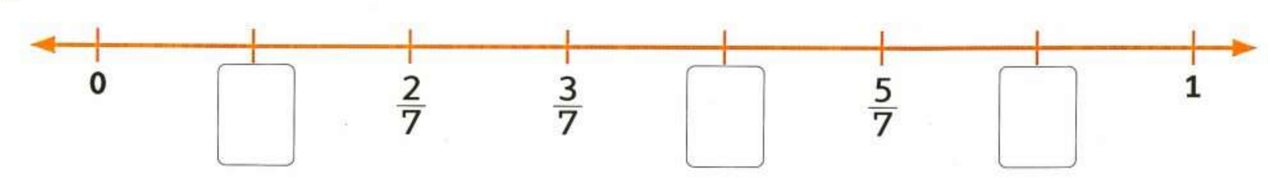
a.



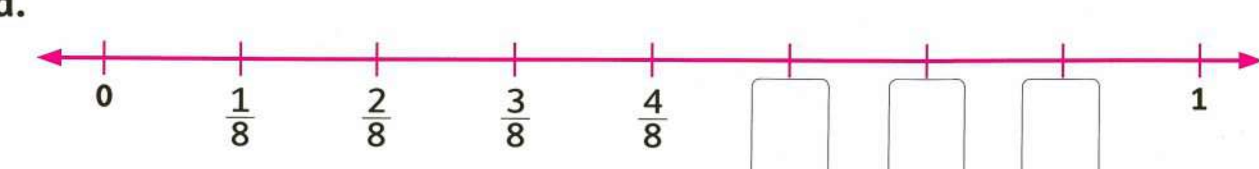
b.



c.

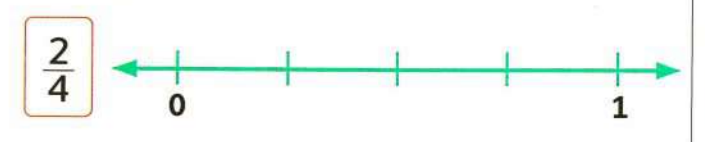


d.

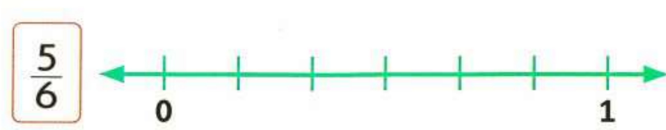


5 Locate a point to represent each fraction on the opposite number line.

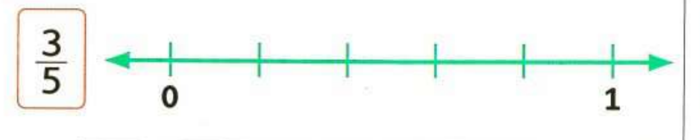
a. $\frac{2}{4}$



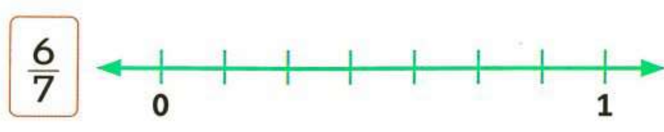
b. $\frac{5}{6}$



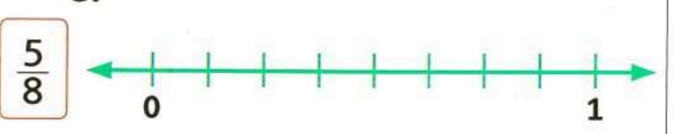
c. $\frac{3}{5}$



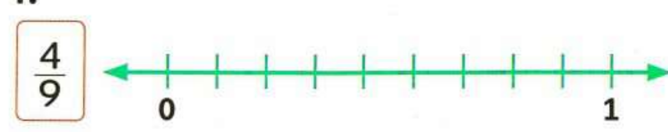
d. $\frac{6}{7}$



e. $\frac{5}{8}$

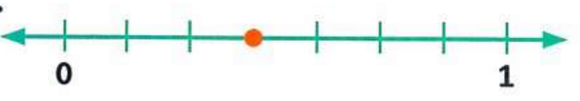


f. $\frac{4}{9}$



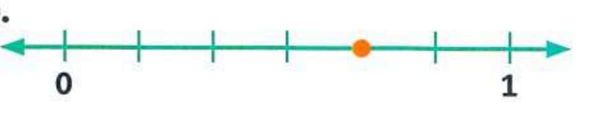
6 Write the fraction that names the point on each number line.

a.



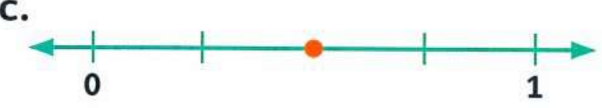
______

b.



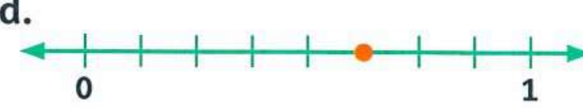
______

c.



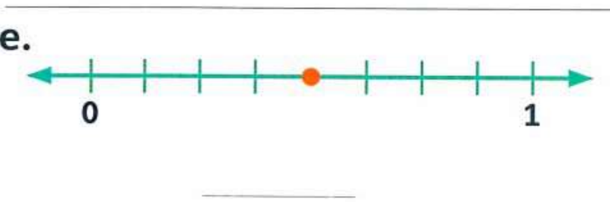
______

d.



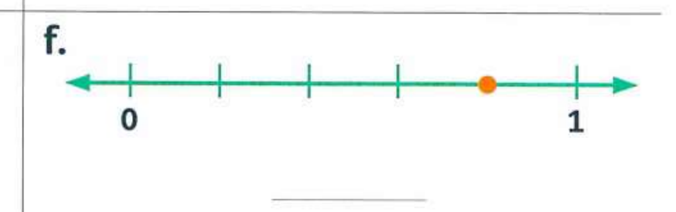
______

e.



______

f.

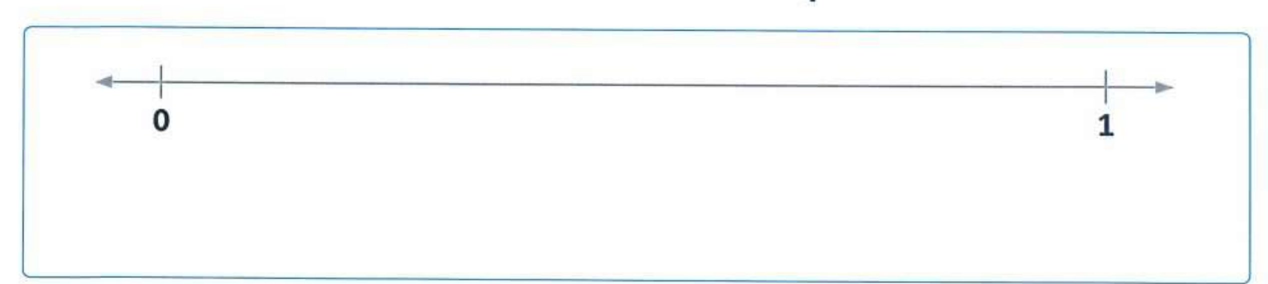


______

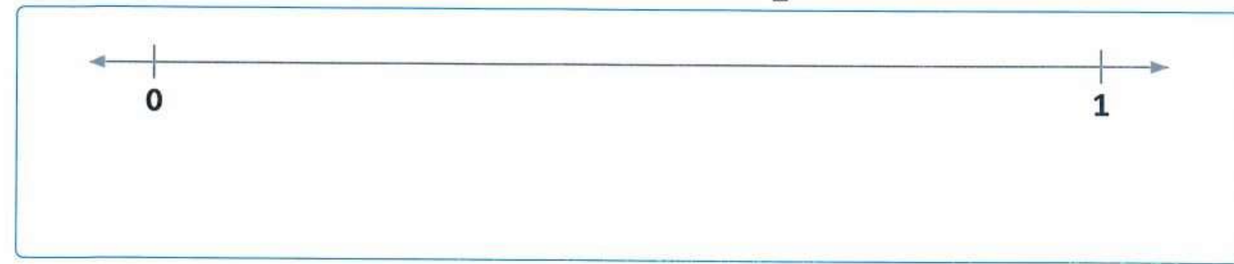
7 📖 **For each problem below, complete the following steps :**

1. Divide the number lines into the given number of equal parts.
2. Label all of the fractions on the number line.
3. Circle the stated proper fraction on the number line.
4. Draw a model of the circled fraction using a shape or a set.

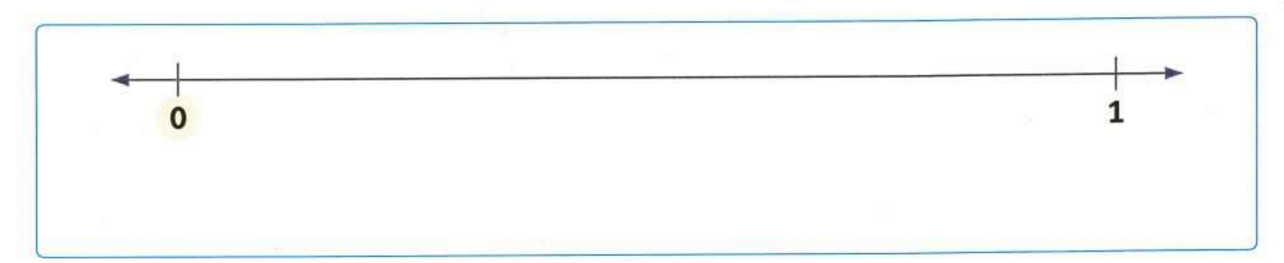
a. **Divide the number line into fourths. Circle $\frac{3}{4}$.**



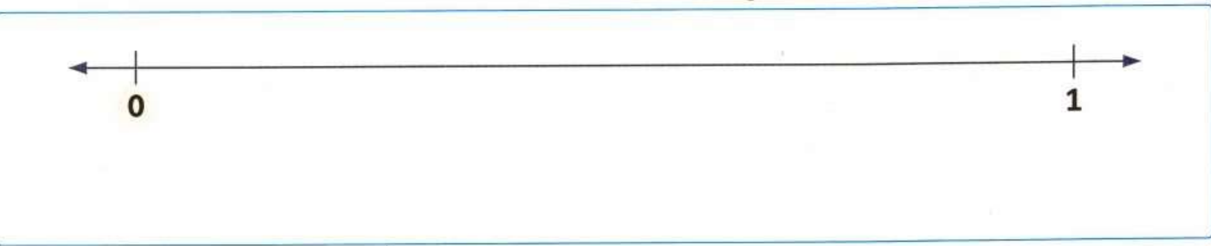
b. **Divide the number line into halves. Circle $\frac{1}{2}$.**



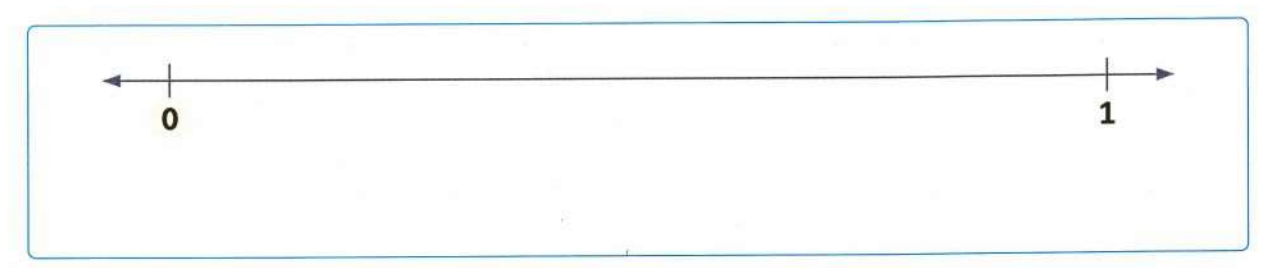
c. Divide the number line into sixths. Circle $\frac{4}{6}$.



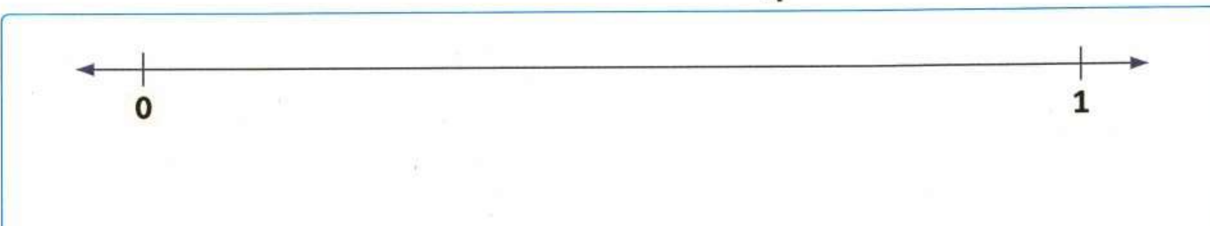
d. Divide the number line into thirds. Circle $\frac{2}{3}$.



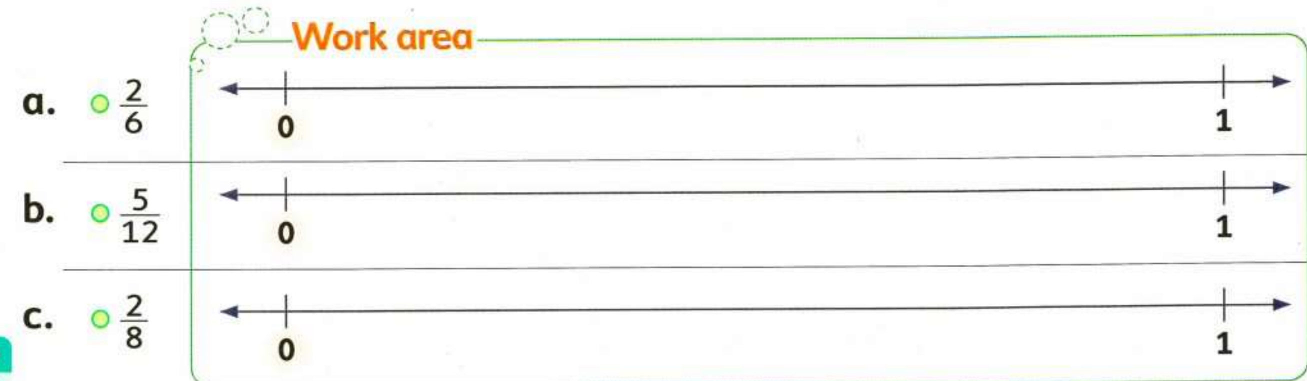
e. Divide the number line into fifths. Circle $\frac{2}{5}$.



f. Divide the number line into fourths. Circle $\frac{1}{4}$.

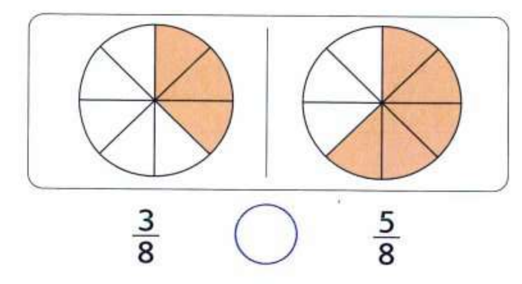


8 Locate a point to represent each fraction on the opposite number line.



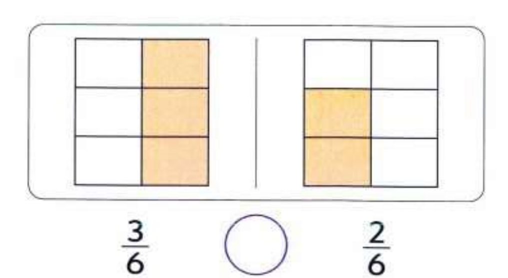
9 Compare using "< or >".

a.



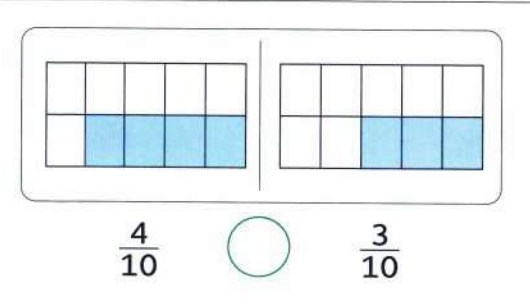
$\frac{3}{8}$ ◯ $\frac{5}{8}$

b.



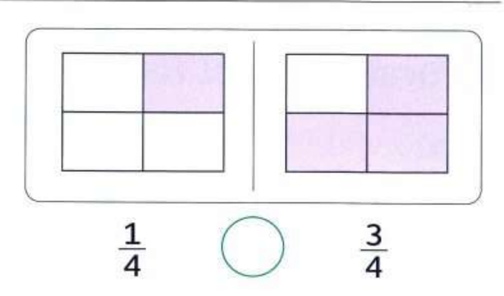
$\frac{3}{6}$ ◯ $\frac{2}{6}$

c.



$\frac{4}{10}$ ◯ $\frac{3}{10}$

d.

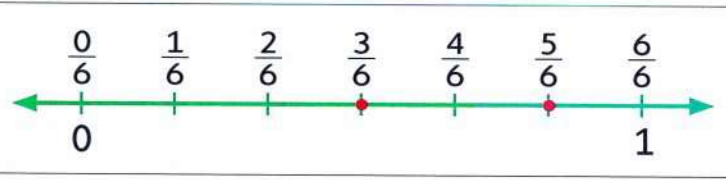


$\frac{1}{4}$ ◯ $\frac{3}{4}$

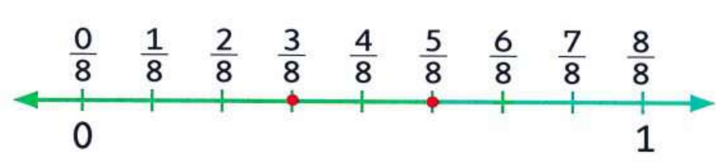
10 Compare using "< or >".

a. $\frac{3}{4}$ ◯ $\frac{2}{4}$

b. $\frac{3}{6}$ ◯ $\frac{5}{6}$



c. $\frac{5}{8}$ ◯ $\frac{3}{8}$



11 📖 **Draw a model for each fraction and then compare using < or > . You may draw number lines or pictures. If you use your fraction kit models, draw a representation of that also.**

a. Draw a model and compare : $\frac{2}{8}$ ◯ $\frac{4}{8}$

b. Draw a model and compare : $\frac{3}{6}$ ◯ $\frac{5}{6}$

c. Draw a model and compare : $\frac{3}{4}$ ◯ $\frac{2}{4}$

d. Draw a model and compare : $\frac{3}{3} \bigcirc \frac{2}{3}$

e. Draw a model and compare : $\frac{3}{8} \bigcirc \frac{7}{8}$

12 **Compare using "< or >".**
"Draw a model for each fraction using a circle, square, rectangle, ..."

a. $\frac{1}{4} \bigcirc \frac{3}{4}$

Work area

b. $\frac{2}{6} \bigcirc \frac{1}{6}$

Work area

c. $\frac{1}{5} \bigcirc \frac{4}{5}$

Work area

d. $\frac{6}{6} \bigcirc \frac{5}{6}$

Work area

Challenge

13 Hatem has 3 white shirts and 1 blue shirt. If he buys another blue shirt. What fraction is blue ? ______

14 Samir has 12 marbles. He gives 3 marbles to a friend and 4 marbles to his sister. What fraction is left ? ______

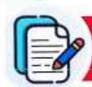
15 Wael made a candle at the carnival. He made $\frac{2}{8}$ of it blue, $\frac{4}{8}$ of it yellow, and $\frac{2}{8}$ of it green.

Which color did he use the most ?

Place a smiley face

Lesson 5

Comparing two fractions with the same numerator or denominator

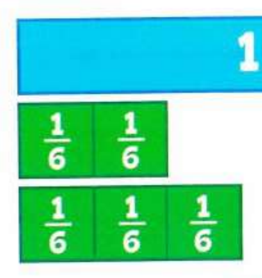


Learn 1 Comparing two fractions with the same denominator

You can compare two fractions with the same denominator in different ways.

Example **Compare $\frac{2}{6}$ and $\frac{3}{6}$.**

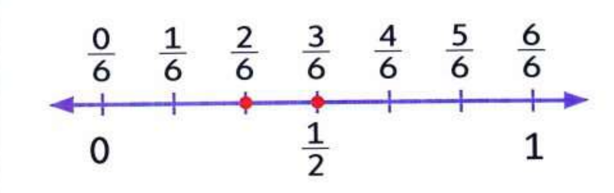
One way Use fraction strips.



The strips for $\frac{2}{6}$ are shorter than the strips for $\frac{3}{6}$.

So, $\frac{2}{6} < \frac{3}{6}$ or $\frac{3}{6} > \frac{2}{6}$

Another way Use number line.



$\frac{3}{6}$ is to the right of $\frac{2}{6}$.

It is closer to 1.

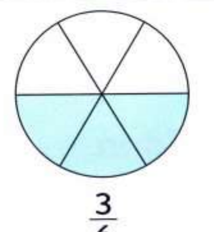
So, $\frac{3}{6} > \frac{2}{6}$ or $\frac{2}{6} < \frac{3}{6}$

Third way Use models.

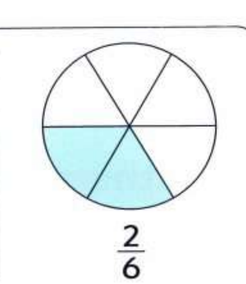
The colored parts for $\frac{3}{6}$.

are greater than the colored parts for $\frac{2}{6}$.

So, $\frac{3}{6} > \frac{2}{6}$ or $\frac{2}{6} < \frac{3}{6}$



$\frac{3}{6}$



$\frac{2}{6}$

Mathematics Idea

When comparing fractions with **like denominators**, the one with the **greater numerator** is greater.

$\frac{3}{6} > \frac{2}{6}$ because they have the same denominator "6" and 3 > 2.

Check

Compare using "< or >".

a. $\frac{5}{7}$ ☐ $\frac{2}{7}$ **b.** $\frac{1}{5}$ ☐ $\frac{3}{5}$ **c.** $\frac{1}{8}$ ☐ $\frac{3}{8}$

Notes for parents

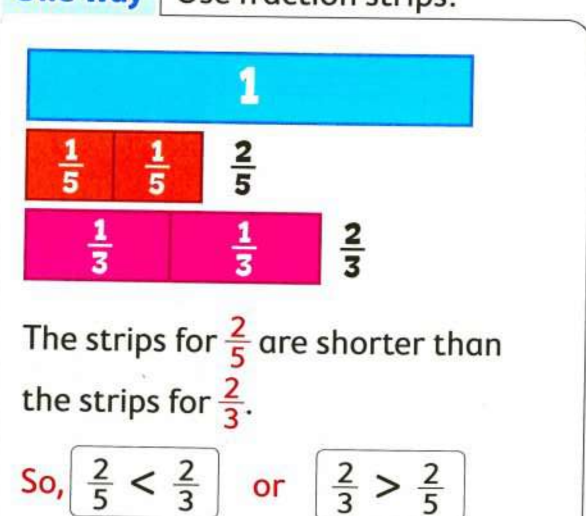
- Ask your child to compare $\frac{4}{6}$ and $\frac{5}{6}$ using different ways.

Learn 2 Comparing two fractions with the same numerator

You can compare two fractions with the same numerator in different ways.

Example Compare $\frac{2}{5}$ and $\frac{2}{3}$.

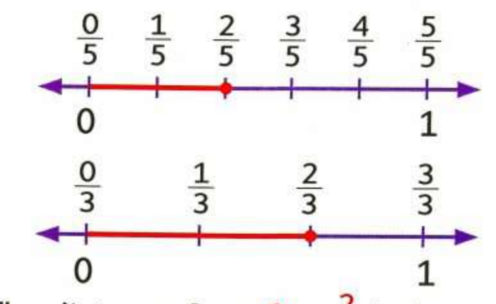
One way Use fraction strips.



The strips for $\frac{2}{5}$ are shorter than the strips for $\frac{2}{3}$.

So, $\frac{2}{5} < \frac{2}{3}$ or $\frac{2}{3} > \frac{2}{5}$

Another way Use a number line.



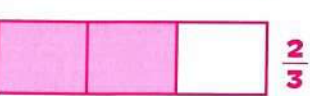
The distance from 0 to $\frac{2}{5}$ is shorter than the distance from 0 to $\frac{2}{3}$.

So, $\frac{2}{5} < \frac{2}{3}$ or $\frac{2}{3} > \frac{2}{5}$

Third way Use models.

The colored parts of $\frac{2}{5}$ is less than the colored parts of $\frac{2}{3}$.

So, $\frac{2}{5} < \frac{2}{3}$ or $\frac{2}{3} > \frac{2}{5}$



Mathematics Idea

When comparing fractions with **like numerators**, the one with **greater denominator** is smaller.

$\frac{2}{5} < \frac{2}{3}$ because they have the same numerator "2" and 5 > 3.

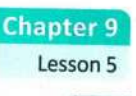
Check

Compare. Write "< or >".

a. $\frac{3}{7}$ ☐ $\frac{3}{5}$

b. $\frac{6}{9}$ ☐ $\frac{6}{7}$

c. $\frac{2}{8}$ ☐ $\frac{2}{9}$



Notes for parents

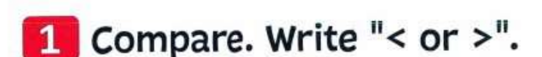
- Ask your child how he/she compare two fractions with like numerators (as : $\frac{3}{7}$ and $\frac{3}{10}$).

Exercise
14
On Lesson 5

Comparing two fractions with the same numerator or denominator

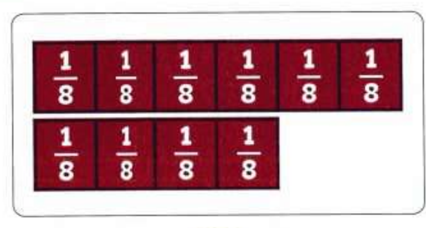
From the school book

First : Comparing fractions with the same denominator



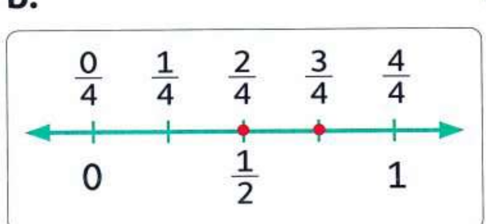
1 Compare. Write "< or >".

a.



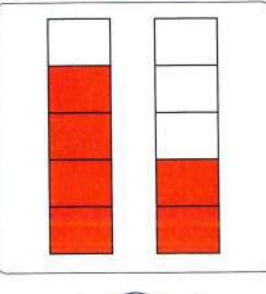
$\frac{6}{8}$ ◯ $\frac{4}{8}$

b.



$\frac{2}{4}$ ◯ $\frac{3}{4}$

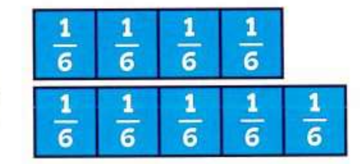
c.



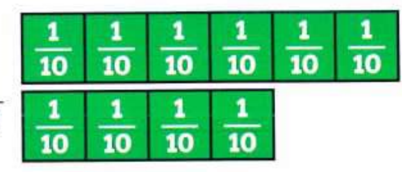
$\frac{4}{5}$ ◯ $\frac{2}{5}$

2 Compare. Write "< or >".

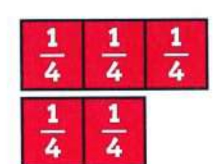
a. $\frac{4}{6}$ ◯ $\frac{5}{6}$



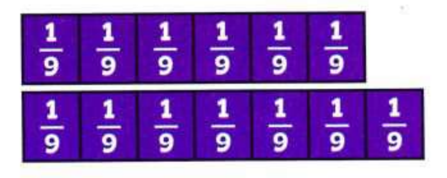
b. $\frac{6}{10}$ ◯ $\frac{4}{10}$



c. $\frac{3}{4}$ ◯ $\frac{2}{4}$

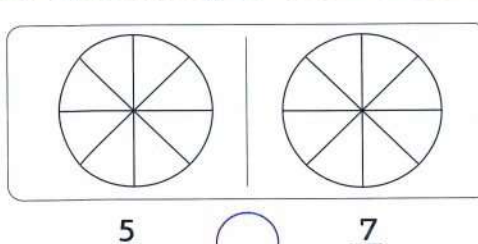


d. $\frac{6}{9}$ ◯ $\frac{7}{9}$



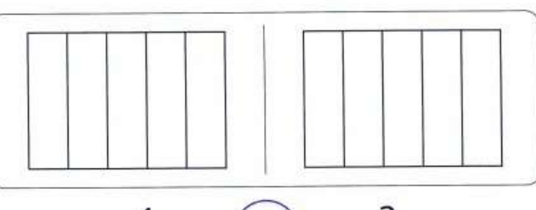
3 Color according to each fraction. Compare. Write "< or >".

a.



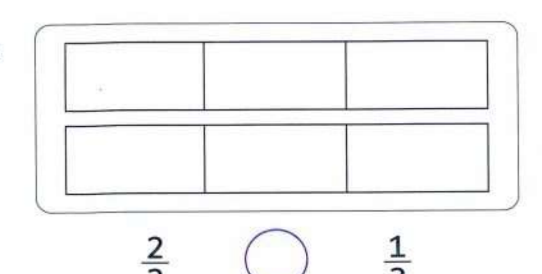
$\frac{5}{8}$ ◯ $\frac{7}{8}$

b.



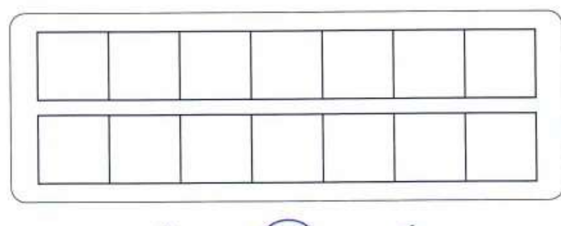
$\frac{4}{5}$ $\frac{3}{5}$

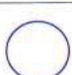
c.



$\frac{2}{3}$ ◯ $\frac{1}{3}$

d.



$\frac{3}{7}$  $\frac{6}{7}$

4 Compare. Write "< or >". You may use fraction strips.

a. $\frac{5}{10}$ ◯ $\frac{7}{10}$	b. $\frac{6}{8}$ ◯ $\frac{4}{8}$	c. $\frac{3}{4}$ ◯ $\frac{1}{4}$
d. $\frac{2}{5}$ ◯ $\frac{3}{5}$	e. $\frac{1}{7}$ ◯ $\frac{6}{7}$	f. $\frac{6}{12}$ ◯ $\frac{8}{12}$
g. $\frac{7}{9}$ ◯ $\frac{4}{9}$	h. $\frac{1}{3}$ ◯ $\frac{2}{3}$	i. $\frac{6}{6}$ ◯ $\frac{5}{6}$

5 Circle the smaller fraction.

a. $\frac{1}{7}$ $\frac{3}{7}$　b. $\frac{2}{5}$ $\frac{4}{5}$　c. $\frac{6}{10}$ $\frac{8}{10}$

d. $\frac{7}{11}$ $\frac{6}{11}$　e. $\frac{5}{9}$ $\frac{8}{9}$　f. $\frac{13}{14}$ $\frac{12}{14}$

6 Circle the greater fraction.

a. $\frac{2}{8}$ $\frac{5}{8}$　b. $\frac{3}{6}$ $\frac{5}{6}$　c. $\frac{4}{12}$ $\frac{1}{12}$

d. $\frac{5}{7}$ $\frac{6}{7}$　e. $\frac{20}{20}$ $\frac{18}{20}$　f. $\frac{12}{13}$ $\frac{13}{13}$

7 Circle the fractions which are greater than $\frac{8}{15}$.

$\frac{7}{15}$, $\frac{9}{15}$, $\frac{6}{15}$, $\frac{14}{15}$, $\frac{13}{15}$, $\frac{2}{15}$, $\frac{11}{15}$, $\frac{1}{15}$, $\frac{15}{15}$

8 Put (✓) to the correct statement or (✗) to the incorrect statement.

a. $\frac{5}{7} > \frac{6}{7}$ (　)	b. $\frac{5}{5} > \frac{2}{5}$ (　)	c. $\frac{2}{3} > \frac{1}{3}$ (　)
d. $\frac{2}{5} < \frac{4}{5}$ (　)	e. $\frac{3}{8} < \frac{5}{8}$ (　)	f. $\frac{6}{6} = \frac{7}{7}$ (　)

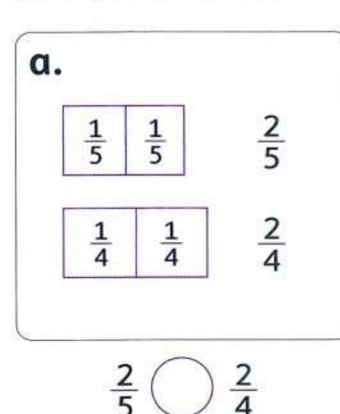
9 Cricle the correct fraction.

a. $\frac{3}{6}$ < ____ ($\frac{5}{6}$ or $\frac{2}{6}$)	b. $\frac{6}{8}$ < ____ ($\frac{5}{8}$ or $\frac{7}{8}$)
c. $\frac{4}{9}$ > ____ ($\frac{2}{9}$ or $\frac{5}{9}$)	d. $\frac{4}{5}$ > ____ ($\frac{2}{5}$ or 1)
e. ____ < $\frac{5}{7}$ ($\frac{3}{7}$ or $\frac{6}{7}$)	f. ____ > $\frac{2}{4}$ ($\frac{1}{4}$ or $\frac{3}{4}$)

Second : Comparing fractions with the same numerator

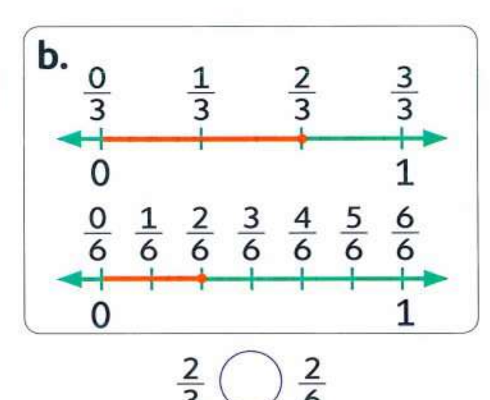
10 Compare. Write "< or >".

a.



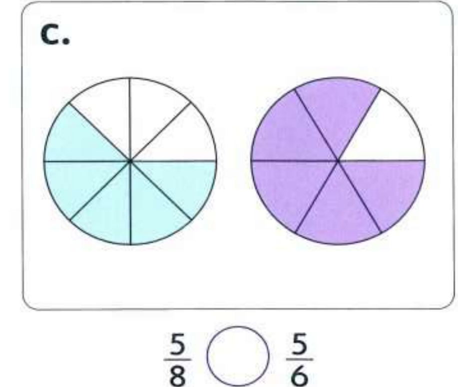
$\frac{2}{5}$ ◯ $\frac{2}{4}$

b.



$\frac{2}{3}$ ◯ $\frac{2}{6}$

c.



$\frac{5}{8}$ ◯ $\frac{5}{6}$

11 Compare. Write "< or >".

a. $\frac{1}{3}$ ◯ $\frac{1}{6}$ (strips: $\frac{1}{3}$ | $\frac{1}{6}$)

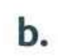
b. $\frac{3}{5}$ ◯ $\frac{3}{4}$ (strips: $\frac{1}{5}$ $\frac{1}{5}$ $\frac{1}{5}$ | $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$)

c. $\frac{2}{7}$ ◯ $\frac{2}{3}$ (strips: $\frac{1}{7}$ $\frac{1}{7}$ | $\frac{1}{3}$ $\frac{1}{3}$)

d. $\frac{3}{6}$ ◯ $\frac{3}{8}$ (strips: $\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$ | $\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$)

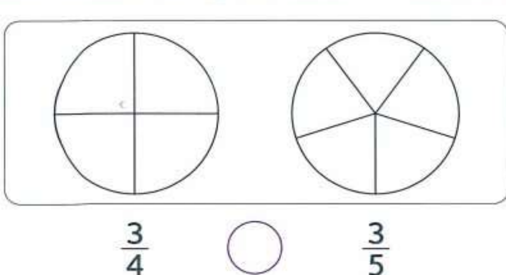
e. $\frac{4}{6}$ ◯ $\frac{4}{5}$ (strips: $\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$ | $\frac{1}{5}$ $\frac{1}{5}$ $\frac{1}{5}$ $\frac{1}{5}$)

f. $\frac{5}{12}$ ◯ $\frac{5}{8}$ (strips: $\frac{1}{12}$ $\frac{1}{12}$ $\frac{1}{12}$ $\frac{1}{12}$ $\frac{1}{12}$ | $\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$)



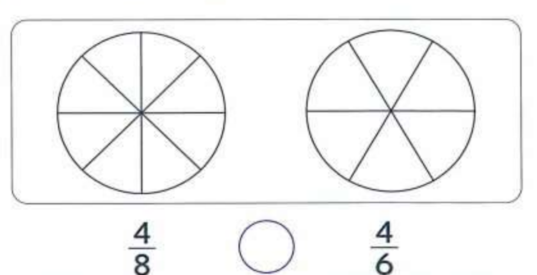
12 Color according to each fraction. Compare. Write "< or >".

a.



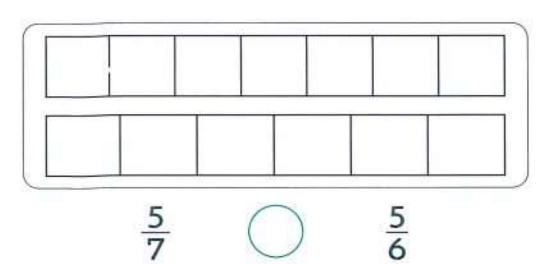
$\frac{3}{4}$ ◯ $\frac{3}{5}$

b.



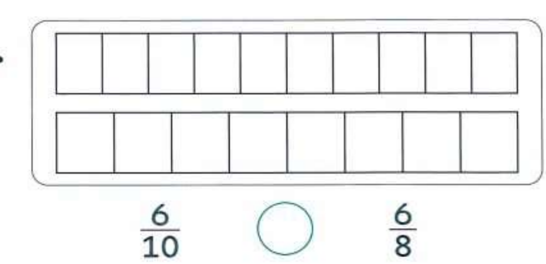
$\frac{4}{8}$ ◯ $\frac{4}{6}$

c.



$\frac{5}{7}$ ◯ $\frac{5}{6}$

d.



$\frac{6}{10}$ ◯ $\frac{6}{8}$

13 Compare. Write "< or >". You may use fraction strips.

a. $\frac{3}{7}$ ◯ $\frac{3}{5}$	b. $\frac{5}{8}$ ◯ $\frac{5}{10}$	c. $\frac{3}{6}$ ◯ $\frac{3}{8}$
d. $\frac{2}{8}$ ◯ $\frac{2}{5}$	e. $\frac{4}{7}$ ◯ $\frac{4}{6}$	f. $\frac{5}{10}$ ◯ $\frac{5}{12}$
g. $\frac{6}{8}$ ◯ $\frac{6}{7}$	h. $\frac{1}{8}$ ◯ $\frac{1}{10}$	i. $\frac{3}{5}$ ◯ $\frac{3}{3}$

14 Circle the smaller fraction.

a. $\frac{2}{6}$ $\frac{2}{9}$ b. $\frac{3}{7}$ $\frac{3}{5}$ c. $\frac{5}{8}$ $\frac{5}{9}$

d. $\frac{4}{6}$ $\frac{4}{8}$ e. $\frac{6}{9}$ $\frac{6}{7}$ f. $\frac{2}{5}$ $\frac{2}{2}$

15 Circle the greater fraction.

a. $\frac{3}{5}$ $\frac{3}{6}$ b. $\frac{4}{8}$ $\frac{4}{6}$ c. $\frac{2}{4}$ $\frac{2}{8}$

d. $\frac{1}{5}$ $\frac{1}{4}$ e. $\frac{7}{9}$ $\frac{7}{10}$ f. $\frac{5}{5}$ $\frac{5}{6}$

16 Circle the fractions which are smaller than $\frac{2}{5}$.

$\frac{2}{2}$, $\frac{2}{4}$, $\frac{2}{7}$, $\frac{2}{9}$, $\frac{2}{3}$, $\frac{2}{6}$, $\frac{2}{8}$, $\frac{2}{10}$

Third : General problems on comparing fractions

17 Compare using "< or >".

a. $\frac{3}{4}$ ◯ $\frac{1}{4}$	b. $\frac{2}{5}$ ◯ $\frac{1}{5}$	c. $\frac{4}{6}$ ◯ $\frac{5}{6}$
d. $\frac{5}{8}$ ◯ $\frac{4}{8}$	e. $\frac{7}{7}$ ◯ $\frac{5}{7}$	f. $\frac{3}{8}$ ◯ $\frac{6}{8}$

18 Compare using "< or >".

a. $\frac{1}{7}$ ◯ $\frac{1}{5}$	b. $\frac{5}{8}$ ◯ $\frac{5}{10}$	c. $\frac{2}{8}$ $\frac{2}{5}$
d. $\frac{4}{8}$ ◯ $\frac{4}{10}$	e. $\frac{1}{9}$ ◯ $\frac{1}{3}$	f. $\frac{3}{5}$ ◯ $\frac{3}{3}$

19 Compare using "< , = or >".

a. $\frac{3}{5}$ $\frac{4}{5}$	b. $\frac{3}{7}$ ◯ $\frac{3}{5}$	c. $\frac{7}{10}$ ◯ $\frac{7}{11}$
d. $\frac{3}{8}$ ◯ $\frac{5}{8}$	e. $\frac{5}{8}$ ◯ $\frac{5}{6}$	f. $\frac{3}{4}$ ◯ 1

20 Choose the correct answer.

a. $\frac{3}{7} >$ ______ ($\frac{4}{7}$ or $\frac{5}{7}$ or $\frac{1}{7}$)

b. $\frac{2}{5} <$ ______ ($\frac{2}{3}$ or $\frac{2}{7}$ or $\frac{2}{6}$)

c. $\frac{4}{9} <$ ______ ($\frac{4}{10}$ or $\frac{4}{11}$ or $\frac{4}{7}$)

d. $\frac{5}{5} >$ ______ ($\frac{5}{7}$ or $\frac{3}{3}$ or 1)

e. $\frac{4}{7} <$ ______ ($\frac{4}{7}$ or $\frac{6}{7}$ or $\frac{4}{9}$)

21 **a.** Which fraction is greater, $\frac{1}{4}$ or $\frac{3}{4}$? Show or explain your work in the box below, and then use < or > to record your answer.

____

____

b. What is your hypothesis for comparing any fractions with the same denominator ?

____

____

22 **a.** Test your hypothesis : Which fraction is greater, $\frac{5}{8}$ or $\frac{2}{8}$? Use a model to prove your answer and then write a comparison statement with < or >.

b. What other fractions could you use to test your hypothesis ? Use models to prove your answer and then write a comparison statement with < or >.

---

23 **a.** Which fraction is greater, $\frac{2}{3}$ or $\frac{2}{4}$? Show or explain your work in the box below, and then use < or > to record your answer.

b. What is your hypothesis for comparing any fractions with the same numerator ?

---

24 **a.** Test your hypothesis : Which fraction is greater, $\frac{3}{8}$ or $\frac{3}{4}$? Use a model to prove your answer and then write a comparison statement with < or >.

b. What other fractions could you use to test your hypothesis ? Use models to prove your answer and then write a comparison statement with < or >.

Place a smiley face

Lessons 6 & 7

- Adding two fractions with the same denominator
- Subtracting two fractions with the same denominator

Learn 1 Adding fractions with the same denominator

Ahmed cut a pie into 6 equal pieces.
He ate 2 pieces. Sara ate 1 piece.
What fraction of the pie did they eat in all ?

Add. $\frac{2}{6} + \frac{1}{6}$

To add follow the following steps using fraction strips.

Step 1

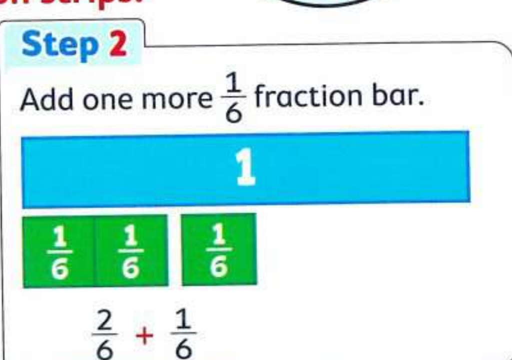
Line up two $\frac{1}{6}$ fraction bars under the bar for 1.

1	
$\frac{1}{6}$	$\frac{1}{6}$

$\frac{2}{6}$

Step 2

Add one more $\frac{1}{6}$ fraction bar.



$\frac{2}{6} + \frac{1}{6}$

Step 3

Count the number of $\frac{1}{6}$ fraction bars.

1		
$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$

$\frac{1}{6}$, $\frac{2}{6}$, $\frac{3}{6}$ or $\frac{2}{6} + \frac{1}{6} = \frac{3}{6}$

So, Ahmed and Sara ate $\frac{3}{6}$ of the pie.

Mathematics Idea

To add fractions with common denominator, add the numerators and then write the sum over the common denominator.

$\frac{2}{6} + \frac{1}{6} = \frac{3}{6}$ (**Think:** 2 + 1 = 3)

Check

a. $\frac{3}{5} + \frac{1}{5} =$ ______

b. $\frac{5}{10} + \frac{4}{10} =$ ______

c. $\frac{1}{9} + \frac{6}{9} =$ ______

Notes for parents

- Ask your child to model the two fractions $\frac{5}{8}$ and $\frac{3}{8}$, then find their sum.

Learn 2 Subtracting fractions with the same denominator

You can use fraction strips to subtract fractions with common denominator.

Subtract. $\frac{8}{10} - \frac{5}{10}$

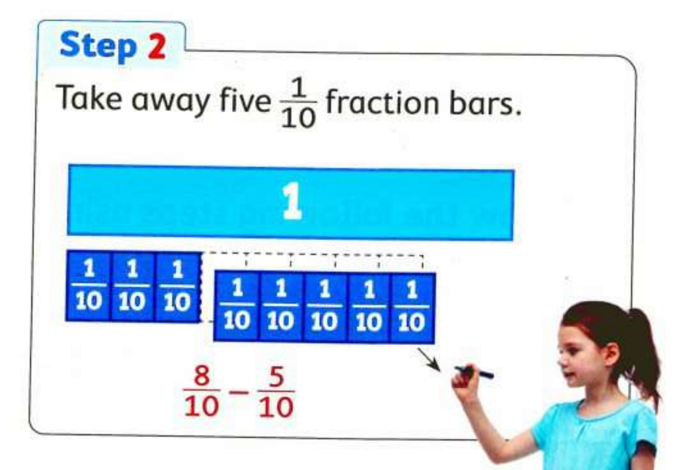
To substract follow the following steps using fraction strips.

Step 1

Line up eight $\frac{1}{10}$ fraction bars under the bar for 1.

1							
$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$

$\frac{8}{10}$



Step 3

Count the left number of $\frac{1}{10}$ fraction bars.

1		
$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$

So, $\frac{8}{10} - \frac{5}{10} = \frac{3}{10}$

Mathematics Idea

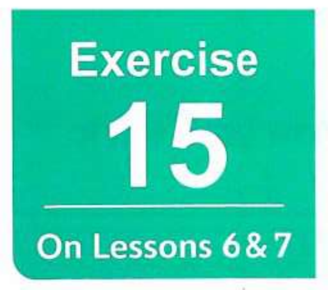
To subtract fractions with common denominator, subtract the numerators and then write the difference over the common denominator.

$\frac{8}{10} - \frac{5}{10} = \frac{3}{10}$ (**Think** : $8 - 5 = 3$)

Find the difference.

a. $\frac{8}{10} - \frac{7}{10} =$ ______ **b.** $\frac{3}{7} - \frac{2}{7} =$ ______ **c.** $\frac{5}{8} - \frac{1}{8} =$ ______

• Ask your child how to find $\frac{7}{10} - \frac{3}{10}$ without using fraction strips or fraction models.



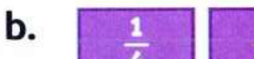
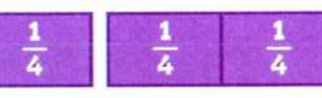
• Adding two fractions with the same denominator
• Subtracting two fractions with the same denominator

From the school book

1 Find each sum.

a.

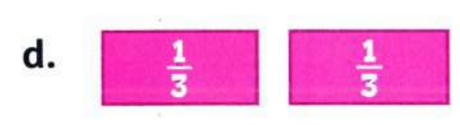
$\frac{3}{6} + \frac{2}{6} =$

b.  

$\frac{1}{4} + \frac{2}{4} =$

c. 1/12 1/12 1/12 1/12 1/12 1/12 1/12

$\frac{4}{12} + \frac{3}{12} =$

d. 

$\frac{1}{3} + \frac{1}{3} =$

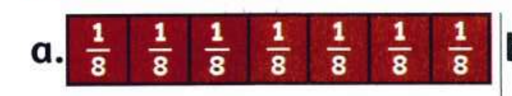
e.

$\frac{5}{8} + \frac{2}{8} =$

f. 1/10 1/10 1/10

$\frac{2}{10} + \frac{1}{10} =$

2 Find each difference.

a. 

$\frac{7}{8} - \frac{4}{8} =$

b.

$\frac{4}{4} - \frac{1}{4} =$

c.

$\frac{9}{12} - \frac{2}{12} =$

d. 1/6 1/6 1/6

$\frac{3}{6} - \frac{2}{6} =$

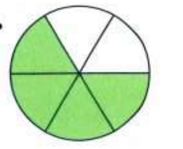
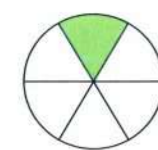
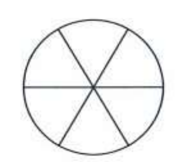
e. 1/5 1/5 1/5 1/5

$\frac{4}{5} - \frac{1}{5} =$

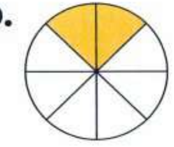
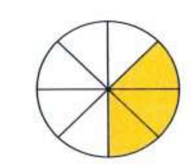
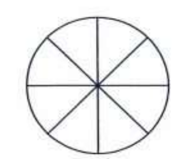
f. 1/10 1/10 1/10 1/10 1/10 1/10 1/10 1/10 1/10

$\frac{9}{10} - \frac{2}{10} =$

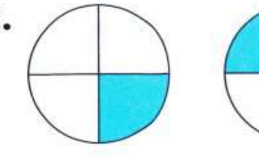
3 Write the fraction according to the colored parts. Add and write the sum.

a.   

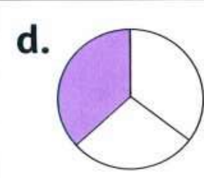
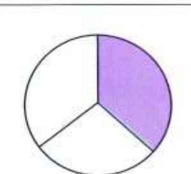
____ + ____ = ____

b.   

____ + ____ = ____

c. 

____ + ____ = ____

d.  

____ + ____ = ____

4 Solve the addition problems below. Draw models to show your work.

a. $\frac{3}{8} + \frac{2}{8} =$ ____

b. $\frac{1}{6} + \frac{3}{6} =$ ____

c. $\frac{1}{2} + \frac{1}{2} =$ ____

d. $\frac{1}{4} + \frac{2}{4} =$ ____

5 Solve the problems below. Draw a model to show your work.

a. $\frac{2}{4} - \frac{1}{4} =$ ____

b. $\frac{4}{8} - \frac{2}{8} =$ ____

c. $\frac{3}{3} - \frac{1}{3} =$ ____

d. $\frac{3}{12} - \frac{1}{12} =$ ____

6 Find each sum.

a. $\frac{1}{5} + \frac{1}{5} =$	b. $\frac{2}{10} + \frac{3}{10} =$	c. $\frac{1}{3} + \frac{2}{3} =$	d. $\frac{6}{12} + \frac{4}{12} =$
e. $\frac{4}{6} + \frac{1}{6} =$	f. $\frac{1}{4} + \frac{3}{4} =$	g. $\frac{2}{8} + \frac{4}{8} =$	h. $\frac{5}{10} + \frac{2}{10} =$
i. $\frac{2}{10} + \frac{2}{10} =$	j. $\frac{1}{5} + \frac{2}{5} =$	k. $\frac{3}{12} + \frac{8}{12} =$	l. $\frac{2}{8} + \frac{1}{8} =$

7 Find each difference.

a. $\frac{5}{8} - \frac{3}{8} =$	b. $\frac{2}{3} - \frac{1}{3} =$	c. $\frac{10}{12} - \frac{7}{12} =$	d. $\frac{6}{6} - \frac{3}{6} =$
e. $\frac{5}{10} - \frac{2}{10} =$	f. $\frac{11}{12} - \frac{9}{12} =$	g. $\frac{7}{8} - \frac{1}{8} =$	h. $\frac{2}{4} - \frac{1}{4} =$
i. $\frac{3}{3} - \frac{2}{3} =$	j. $\frac{4}{6} - \frac{1}{6} =$	k. $\frac{7}{10} - \frac{3}{10} =$	l. $1 - \frac{1}{12} =$

8 Complete.

a. $\frac{2}{7} + \underline{\quad} = \frac{5}{7}$

b. $\frac{7}{10} - \underline{\quad} = \frac{2}{10}$

c. $\underline{\quad} - \frac{3}{9} = \frac{1}{9}$

d. $\underline{\quad} - \frac{2}{5} = \frac{3}{5}$

e. $\frac{6}{11} = \underline{\quad} + \frac{5}{11}$

f. $\frac{3}{8} = \underline{\quad} - \frac{2}{8}$

9 Compare. Write "<, = or >".

a. $\frac{4}{5} - \frac{1}{5}$ ◯ $\frac{3}{5} - \frac{2}{5}$	b. $\frac{8}{10} - \frac{4}{10}$ ◯ $\frac{9}{10} - \frac{3}{10}$
c. $\frac{6}{6} - \frac{4}{6}$ ◯ $\frac{1}{6} + \frac{2}{6}$	d. $\frac{3}{8} + \frac{2}{8}$ ◯ $1 - \frac{2}{8}$
e. $\frac{7}{12} - \frac{1}{12}$ ◯ $\frac{7}{12} + \frac{1}{12}$	f. $\frac{7}{9} - \frac{3}{9}$ ◯ $\frac{2}{9} + \frac{2}{9}$
g. $1 - \frac{1}{7}$ ◯ $\frac{5}{7} - \frac{4}{7}$	h. $\frac{1}{5} + \frac{3}{5}$ ◯ $1 - \frac{1}{5}$

10 Choose the correct answer.

a. $\frac{3}{5} + \frac{1}{5} = \underline{\quad}$ ($\frac{2}{5}$ or $\frac{4}{5}$ or $\frac{4}{10}$)

b. $1 - \frac{2}{7} = \underline{\quad}$ ($\frac{3}{7}$ or $\frac{4}{7}$ or $\frac{5}{7}$)

c. $\frac{2}{12} + \frac{5}{12} = \underline{\quad}$ ($\frac{7}{12}$ or $\frac{7}{24}$ or $\frac{12}{12}$)

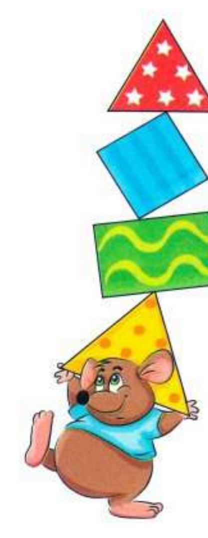
d. $\frac{2}{9} + \frac{1}{9} = \underline{\quad}$ ($\frac{1}{9}$ or $\frac{3}{9}$ or $\frac{3}{18}$)

e. $\frac{7}{10} - \underline{\quad} = \frac{3}{10}$ ($\frac{10}{10}$ or $\frac{5}{10}$ or $\frac{4}{10}$)

f. $\frac{2}{7} + \underline{\quad} = \frac{5}{7}$ ($\frac{2}{7}$ or $\frac{3}{7}$ or $\frac{7}{7}$)

g. $\underline{\quad} + \frac{1}{5} = \frac{4}{5}$ ($\frac{5}{5}$ or $\frac{4}{5}$ or $\frac{3}{5}$)

h. $\underline{\quad} - \frac{3}{8} = \frac{4}{8}$ ($\frac{7}{8}$ or $\frac{1}{8}$ or $\frac{8}{8}$)



11 Join.

a.	$\frac{4}{5} - \frac{2}{5}$	•	•	$\frac{3}{10} + \frac{3}{10}$
b.	$\frac{5}{10} + \frac{2}{10}$	•	•	$\frac{7}{8} - \frac{5}{8}$
c.	$\frac{7}{10} - \frac{1}{10}$	•	•	$\frac{1}{8} + \frac{3}{8}$
d.	$\frac{5}{8} - \frac{3}{8}$	•	•	$\frac{1}{5} + \frac{1}{5}$
e.	$\frac{7}{8} - \frac{3}{8}$	•	•	$\frac{9}{10} - \frac{2}{10}$

12 Add or subtract to answer the riddle.

a. $\frac{1}{5} + \frac{2}{5} =$ R	b. $\frac{7}{10} - \frac{3}{10} =$ N	c. $\frac{3}{6} - \frac{1}{6} =$ O
d. $\frac{4}{8} + \frac{2}{8} =$ S	e. $\frac{5}{9} + \frac{1}{9} =$ T	f. $\frac{3}{8} - \frac{1}{8} =$ I
g. $\frac{11}{12} - \frac{1}{12} =$ F	h. $\frac{4}{8} + \frac{1}{8} =$ W	i. $\frac{1}{4} + \frac{1}{4} =$ P

What has four legs but cannot walk ?

___	___	___
$\frac{6}{9}$	$\frac{5}{8}$	$\frac{2}{6}$

___	A	___	___	___
$\frac{2}{4}$	$\frac{1}{6}$	$\frac{2}{8}$	$\frac{3}{5}$	$\frac{6}{8}$

___	___
$\frac{2}{6}$	$\frac{10}{12}$

___	A	___	___	___
$\frac{2}{4}$	$\frac{1}{6}$	$\frac{4}{10}$	$\frac{6}{9}$	$\frac{6}{8}$

Challenge

13 In the box below write and solve your own two problems of adding and subtracting two fractions with the same denominator.

Place a smiley face

Lesson

Story problems on adding and subtracting fractions

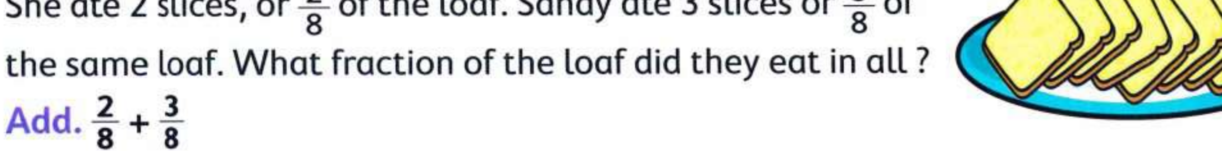
Remember : **You can add fractions with common denominator by adding their numerators.**

Key words of Addition +

add	sum	total
plus	in all	together

Example Julie cut a loaf of bread into 8 slices.

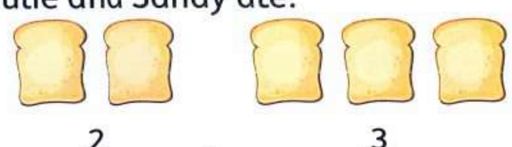
She ate 2 slices, or $\frac{2}{8}$ of the loaf. Sandy ate 3 slices or $\frac{3}{8}$ of the same loaf. What fraction of the loaf did they eat in all ?



Add. $\frac{2}{8} + \frac{3}{8}$

Model

Add the number of $\frac{1}{8}$ slices that Julie and Sandy ate.



$\frac{2}{8} \quad + \quad \frac{3}{8}$

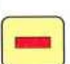
Record

2 slices + 3 slices = 5 slices

$\frac{2}{8} + \frac{3}{8} = \frac{5}{8}$

So, Julie and Sandy ate $\frac{5}{8}$ of the loaf.

Remember : **You can subtract fractions with common denominator by subtracting their numerators.**

Key words of Subtraction 

difference	left	remained
subtract	take away	rest

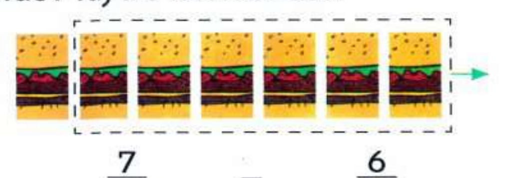
Example Maya had $\frac{7}{12}$ of a sub sandwich left to share with her friends. Her friends ate $\frac{6}{12}$ of the sandwich.

What fraction of the sandwich is left ?

Subtract. $\frac{7}{12} - \frac{6}{12}$

Model

Subtract the number of $\frac{1}{12}$ pieces that Maya's friends ate.



$\frac{7}{12} \quad - \quad \frac{6}{12}$

Record

7 pieces − 6 pieces = 1 piece

$\frac{7}{12} - \frac{6}{12} = \frac{1}{12}$

So, $\frac{1}{12}$ of the sandwich is left.

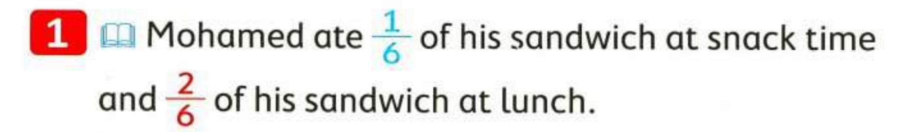
Notes for parents

- Let your child choose a strategy to solve. He/she can use fraction strips, make a model or draw pictures.

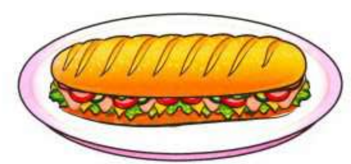
Story problems on adding and subtracting fractions

From the school book

Solve the following story problems. You may show your thinking in words, numbers, and pictures.



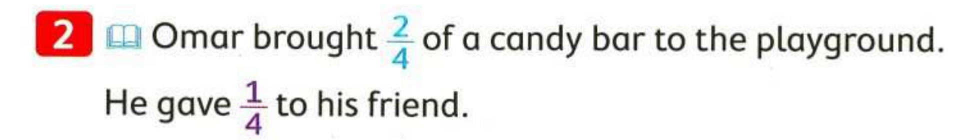
1 Mohamed ate $\frac{1}{6}$ of his sandwich at snack time and $\frac{2}{6}$ of his sandwich at lunch.



How much of his sandwich did he eat in all ?

____

____



2 Omar brought $\frac{2}{4}$ of a candy bar to the playground. He gave $\frac{1}{4}$ to his friend.

How much does he have left ?

____

____

3 Eman has $\frac{8}{8}$ meter of fabric.

She uses $\frac{6}{8}$ meter to make a pillow.

How much of the meter of fabric is left ?

____

____

4 The juice container at Farida's house was $\frac{5}{6}$ full. Farida drank $\frac{3}{6}$ of the container.

How much juice was left in the container ?

____

____

5 Yesterday, Marawan ran $\frac{2}{8}$ of a kilometer and then stopped to drink some water. After his water break, he ran another $\frac{2}{8}$ of a kilometer.

What fraction of a kilometer did Marawan run yesterday ?

____

____

6 Wagdy's house is $\frac{2}{3}$ of a kilometer from school.
Taha's house is $\frac{1}{3}$ of a kilometer from school.

Who lives closer to school ?

____

____

7 Maha and Nagi baked cakes that were the same size.
Maha gave $\frac{3}{4}$ of her cake to her calss.
Nagi gave $\frac{1}{2}$ of his cake to his class.

Which class received more cake, Maha's class or Nagi's class ?

____

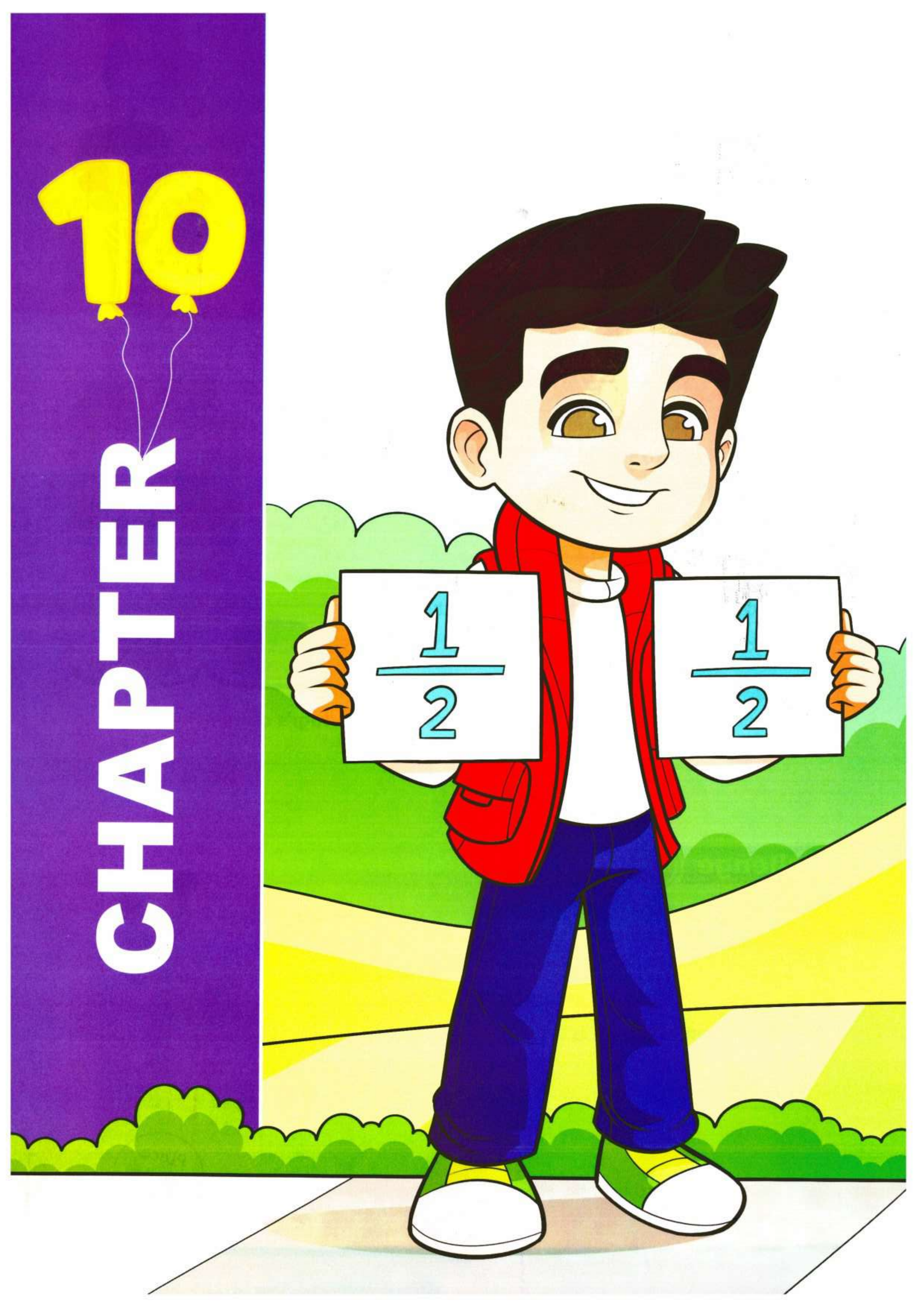
____

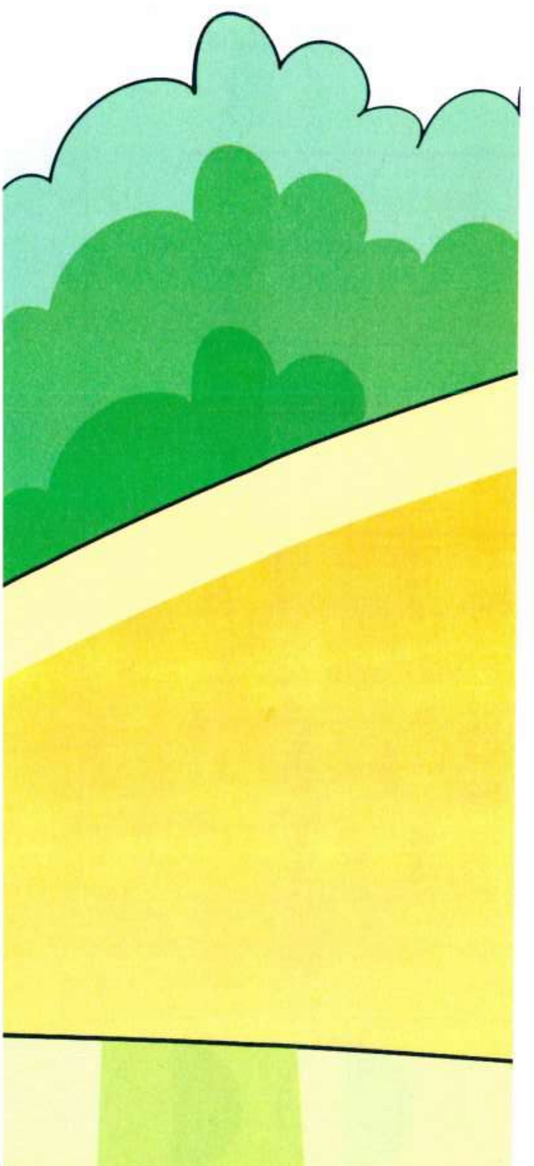
Challenge

8 Samir cut a pie into 8 equal slices.
He shared the pie with 5 of his friends.
Samir and each of his friends ate 1 piece of the pie.
What fraction of the pie is left ?

____

____


10
CHAPTER
1/2
1/2



Outcomes of chapter ten :

At the end of chapter ten, your child will be able to:

▶ Lesson 1 :

- **Equivalent fractions of a half**
- Use fraction models to find fractions equivalent to $\frac{1}{2}$.
- Use drawings and number lines to find equivalent fractions.
- Explain which model he/she prefer to use to find equivalent fractions.

▶ Lessons 2&3 :

- **More of equivalent fractions**
- **Patterns of equivalent fractions**
- Use concrete models to identify equivalent fractions other than $\frac{1}{2}$.
- Match equivalent fractions.
- Explain why two fractions are or are not equivalent.
- Define the term equivalent.
- Find equivalent fractions.
- Describe patterns and relationships between numerators and denominators in equivalent fractions.

▶ Lesson 4 :

- **Equivalent fractions with the number line**
- Use a number line to generate and show equivalent fractions.

▶ Lesson 5 :

- **Applications on equivalent fractions**
- Analyze errors to build understanding of volume.
- Solve story problems involving fraction concepts.
- Apply understanding of equivalent fractions to solve story problems.
- Describe real-life applications of fractions and equivalent fractions.

▶ Lessons 6&7 :

- **Dividing using the bar models**
- **Story problems on division**
- Solve division story problems.
- Discuss the relationship between fractions and division.
- Analyze errors to solve a division problem.
- Write a story problem to fit a given context.
- Describe real-life applications of division.

▶ Lesson 8 :

- **The relation between multiplication and division**
- Find the missing factor in a fact family.
- Write multiplication and division equations to represent fact families.
- Explain the relationship between multiplication and division.

Lesson 1

Equivalent fractions of a half

Learn How to find equivalent fractions to half ($\frac{1}{2}$) ?

- **Equivalent fractions are fractions that name the same amount.**

One way Use fraction strips.

Line up the strips of the same type to show the same size as $\frac{1}{2}$.

$\frac{1}{2}$

$\frac{1}{4}$ $\frac{1}{4}$

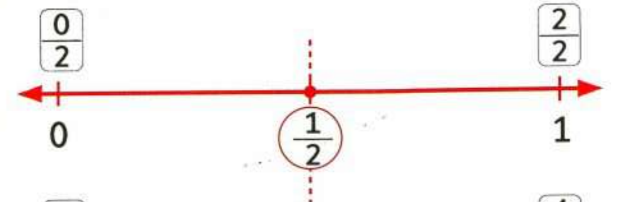
$\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$

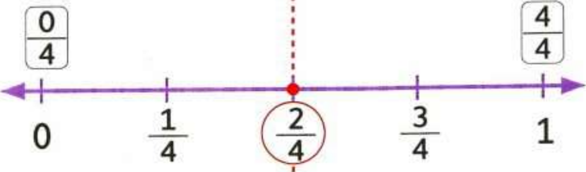
$\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$

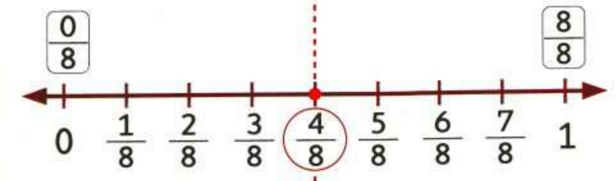
$$\frac{1}{2} = \frac{2}{4} = \frac{4}{8} = \frac{3}{6}$$

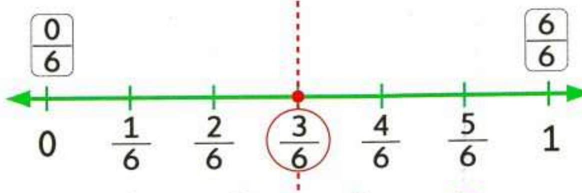
Second way Use number line.

Draw number lines such that each 0 and 1 are line up and divide each distance from 0 to 1 into equal parts. Label fractions.







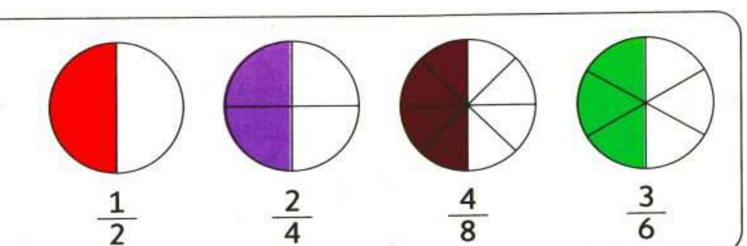


$$\frac{1}{2} = \frac{2}{4} = \frac{4}{8} = \frac{3}{6}$$

Third way Use fraction models.

The colored parts in all circles are equal.

$$\frac{1}{2} = \frac{2}{4} = \frac{4}{8} = \frac{3}{6}$$



$\frac{1}{2}$ $\frac{2}{4}$ $\frac{4}{8}$ $\frac{3}{6}$

Notes for parents

- Let your child draw 2 circles and divide one circle into halves and other into eighths. Color half of each circle.

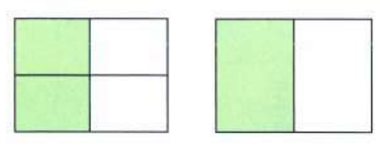
Exercise
17
On Lesson 1

Equivalent fractions of a half

From the school book

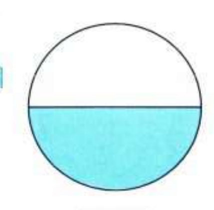
1 Record what fraction each model shows.

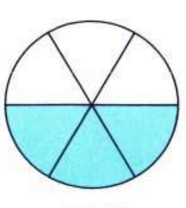
a.



___ = ___

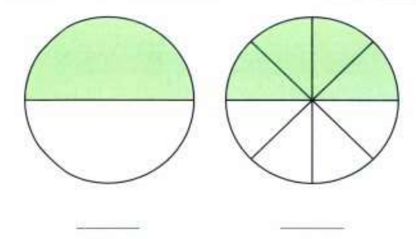
b.





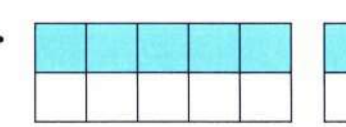
___ = ___

c.



___ = ___

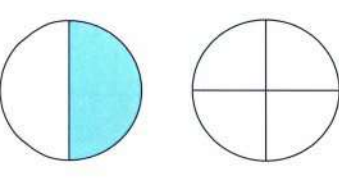
d.



___ = ___

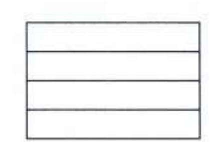
2 Color in the second figure to show $\frac{1}{2}$ and then record the fraction below.

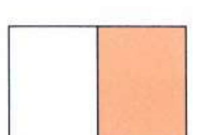
a.



___ = ___

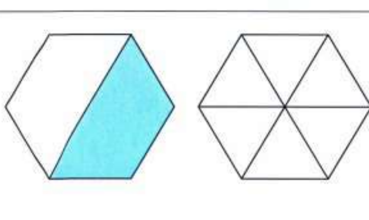
b.





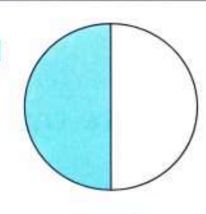
___ = ___

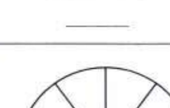
c.



___ = ___

d.

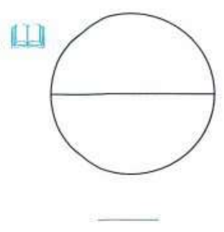




___ = ___

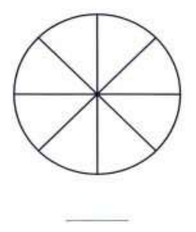
3 Color in each figure to show $\frac{1}{2}$. Record the proper fraction below figure.

a.



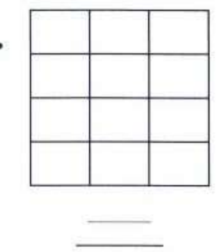
___

b.



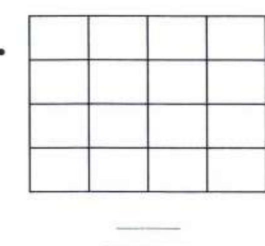
___

c.



___

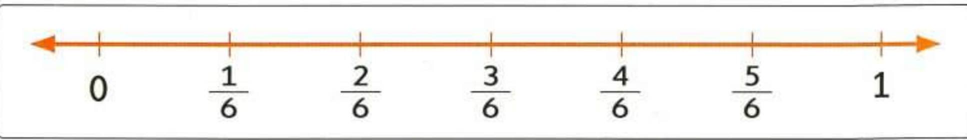
d.



___

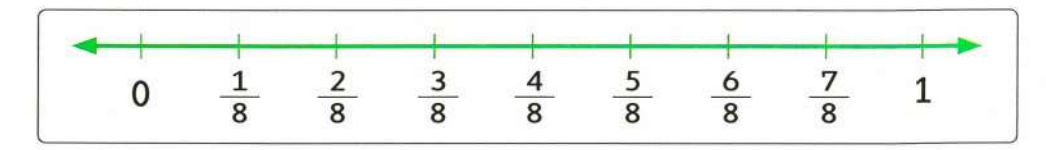
4 Find the equivalent fraction of $\frac{1}{2}$. Show the equivalent fraction on the number line.

a.



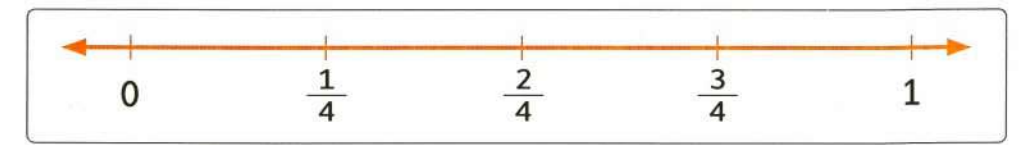
$\frac{1}{2} = \frac{___}{6}$

b.



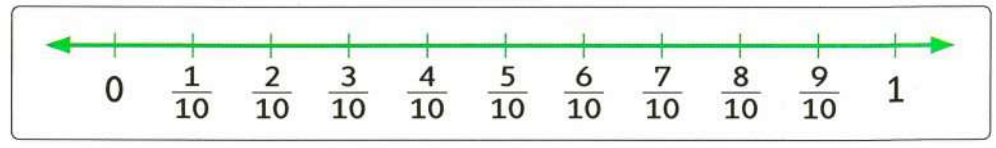
$\frac{1}{2} = \frac{___}{___}$

c.



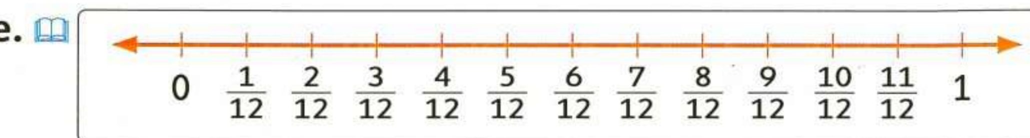
$\frac{1}{2} = \frac{___}{___}$

d.



$\frac{1}{2} = \frac{___}{___}$

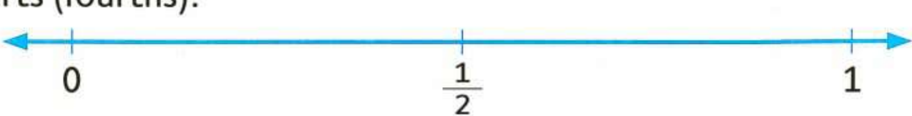
e.



$\frac{1}{2} = \frac{___}{___}$

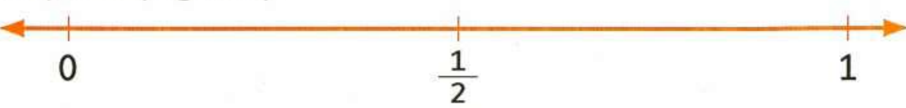
---

5 **a.** The number line below shows halves. Divide the same number line into four equal parts (fourths).



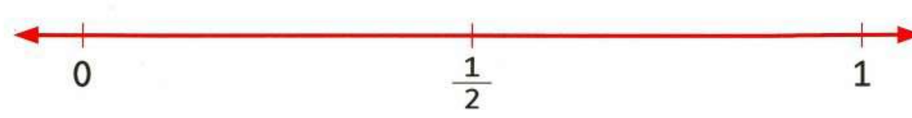
How many fourths are equivalent to $\frac{1}{2}$? ________

b. The number line below shows halves. Divide the same number line into eight equal parts (eighths).



How many eighths are equivalent to $\frac{1}{2}$? ________

c. The number line below shows halves. Divide the same line into sixteen equal parts (Sixteenths).



How many sixteenths are equivalent to $\frac{1}{2}$? ________

6 **Complete.**

a. $\frac{1}{2} = \frac{3}{__}$

b. $\frac{1}{2} = \frac{4}{__}$

c. $\frac{1}{2} = \frac{__}{14}$

d. $\frac{1}{2} = \frac{8}{__}$

e. $\frac{1}{2} = \frac{__}{12}$

f. $\frac{1}{2} = \frac{__}{20}$

g. $\frac{5}{10} = \frac{__}{2}$

h. $\frac{9}{18} = \frac{1}{__}$

i. $\frac{2}{4} = \frac{1}{__}$

---

7 Think about the fractions that you found that were equivalent to $\frac{1}{2}$,solve the story problems below.

1. Doha folded her paper into two equal pieces.

What fraction is each part of the paper ? ____________

She colored $\frac{1}{2}$ red. Then, she folded the paper again, and when she opened it up,there were four equal parts. What fraction of the paper was colored red and equivalent to $\frac{1}{2}$? ____________

Draw what Doha's paper looked like after the second fold.

2. Basem had a pizza that was cut into six equal pieces. He ate $\frac{1}{2}$ of the pizza for dinner. Draw his pizza below (do not forget to cut it into 6 pieces) and color in green the pieces he ate.

How many pieces did he eat ? ____________

What fraction of the pizza is left ? ____________

Challenge

8 Ahmed said that he knew $\frac{5}{10}$ was equal to $\frac{1}{2}$ because 5 is a half of 10.

a. If Ahmed is right, would $\frac{8}{16}$ be equivalent to $\frac{1}{2}$? ________

b. What other fractions might be equivalent to $\frac{1}{2}$? ________

Lessons 2 & 3

- More of equivalent fractions
- Patterns of equivalent fractions

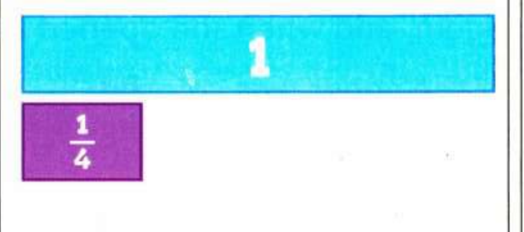
Learn 1 Equivalent fractions using fractions strips and models

Example 1 Materials : Fraction strips

What is an equivalent fraction for $\frac{1}{4}$?

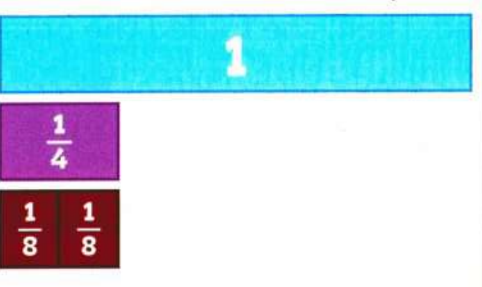
Step 1

Start with the strip for 1 whole. Line up a $\frac{1}{4}$ fraction strip.



Step 2

Use $\frac{1}{8}$ fraction strips to match the length of the strip for $\frac{1}{4}$.



Step 3

Count the number of $\frac{1}{8}$ strips that equal $\frac{1}{4}$.
Write the equivalent fraction.

Count : $\frac{1}{8}, \frac{2}{8}$

Write : $\frac{1}{4} = \frac{2}{8}$

ERROR ALERT
Be sure that the fraction bars are lined up at the left.

Example 2 Materials : Fraction strips

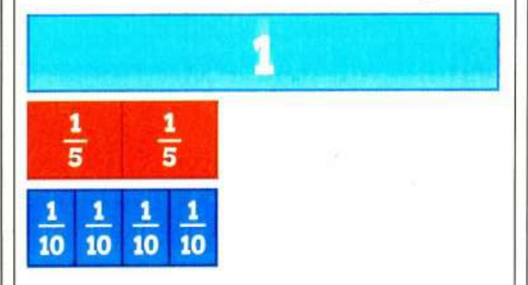
What is an equivalent fraction for $\frac{2}{5}$?

Step 1

Start with the strip for 1 whole.
Line up two $\frac{1}{5}$ strips for $\frac{2}{5}$.

Step 2

Use $\frac{1}{10}$ fraction strips to match the length of the strip for $\frac{2}{5}$.



Step 3

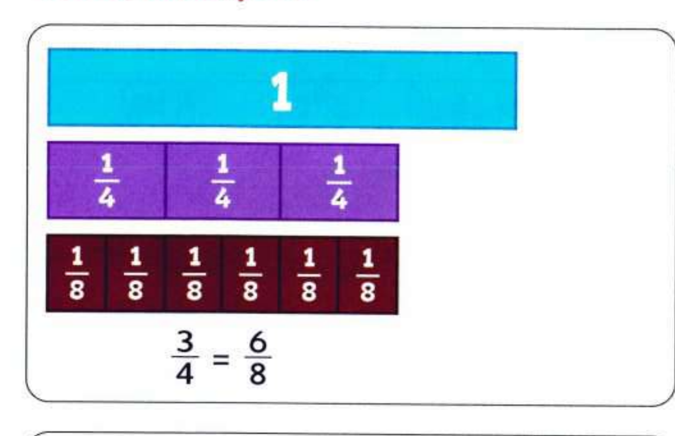
Count the number of $\frac{1}{10}$ strips that equal $\frac{2}{5}$.
Write the equivalent fraction.

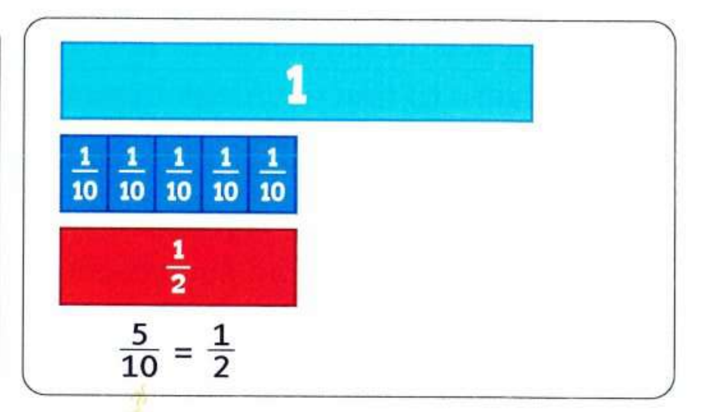
Count :
$\frac{1}{10}, \frac{2}{10}, \frac{3}{10}, \frac{4}{10}$

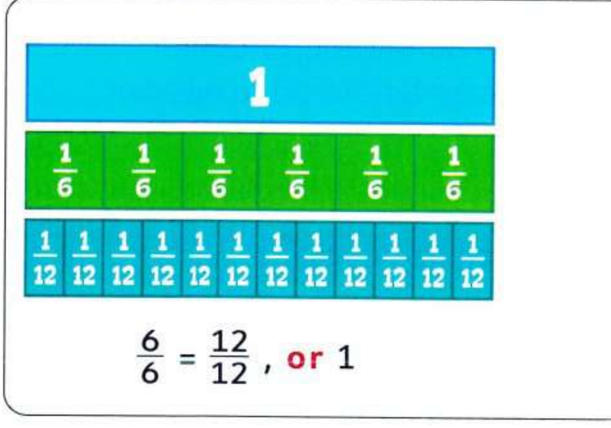
Write : $\frac{2}{5} = \frac{4}{10}$

Notes for parents
- Ask your child to use his/her fraction strips to write any two equivalent fractions.

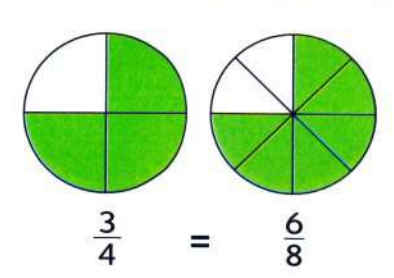
More Examples



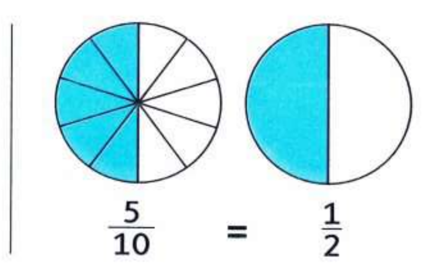




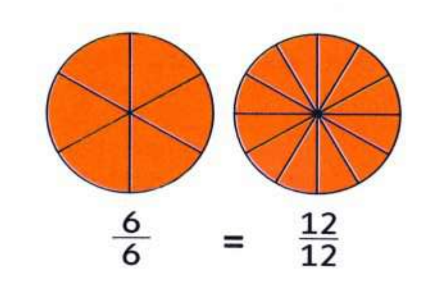
You can also use fraction models.



$\frac{3}{4} = \frac{6}{8}$



$\frac{5}{10} = \frac{1}{2}$



$\frac{6}{6} = \frac{12}{12}$

Check

What fraction is equivalent to $\frac{2}{3}$?

1

$\frac{1}{3}$ $\frac{1}{3}$

$\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$

• Ask your child to draw fraction models to find equivalent fraction to $\frac{2}{3}$.

Learn 2 Equivalent fractions using multiply or divide

- You can multiply both the numerator and denominator of a fraction by any number except zero to find equivalent fractions.
- If the numerator and denominator have a common factor, you can also divide both by that factor to find an equivalent fraction.

Find fractions that are equivalent to $\frac{4}{6}$.

One way

Multiply the numerator and the denominator by the same number.

Try 2 : $\frac{4}{6} = \frac{4 \times 2}{6 \times 2} = \frac{8}{12}$

So, $\frac{8}{12}$ is equivalent to $\frac{4}{6}$.

Another way

Divide the numerator and the denominator by the same number.

Try 2 : $\frac{4}{6} = \frac{4 \div 2}{6 \div 2} = \frac{2}{3}$

So, $\frac{2}{3}$ is equivalent to $\frac{4}{6}$.

Check

Complete to find equivalent fractions.

a. $\frac{1}{3} \overset{\times 4}{\underset{\times 4}{=}} \frac{__}{__}$

b. $\frac{1}{4} \overset{\times 3}{\underset{\times 3}{=}} \frac{__}{__}$

c. $\frac{2}{5} \overset{\times 5}{\underset{\times 5}{=}} \frac{__}{__}$

d. $\frac{3}{6} \overset{\div 3}{\underset{\div 3}{=}} \frac{__}{__}$

e. $\frac{4}{8} \overset{\div 4}{\underset{\div 4}{=}} \frac{__}{__}$

f. $\frac{4}{16} \overset{\div 2}{\underset{\div 2}{=}} \frac{__}{__}$

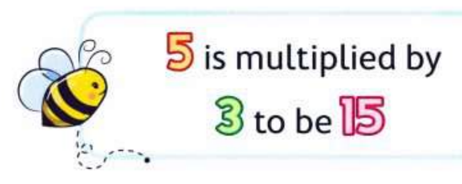
Notes for parents

- Help your child check that $\frac{4}{6} = \frac{8}{12}$ and $\frac{4}{6} = \frac{2}{3}$ using his/her fraction strips.

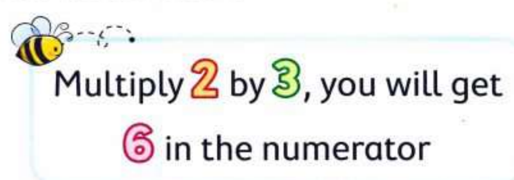
Learn 3 How to find missing numerator or denominator in equivalent fraction

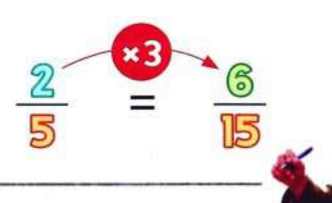
Example $\frac{2}{5} = \frac{?}{15}$

To find the missing numerator, decide if the denominator is multiplied or divided by a number, then do the same with numerator.



$\frac{2}{5} = \frac{?}{15}$ (×3)





Another Example $\frac{8}{12} = \frac{4}{?}$

8 is divided by
2 to be 4

$\frac{8}{12} = \frac{4}{?}$ (÷2)

Divide 12 by 2 also, you will get 6 in the denominator

$\frac{8}{12} = \frac{4}{6}$ (÷2)

Check

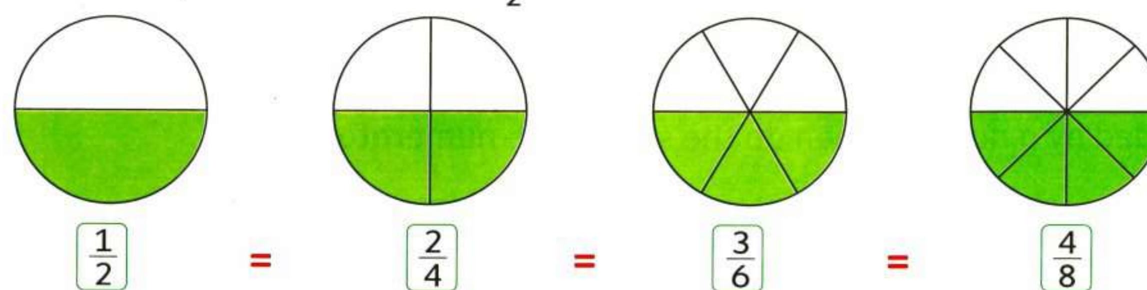
Complete.

a. $\frac{1}{5} = \frac{\ldots}{10}$	b. $\frac{2}{3} = \frac{\ldots}{9}$	c. $\frac{2}{4} = \frac{1}{\ldots}$	d. $\frac{\ldots}{4} = \frac{6}{8}$
e. $\frac{1}{4} = \frac{\ldots}{20}$	f. $\frac{3}{6} = \frac{\ldots}{2}$	g. $\frac{\ldots}{6} = \frac{10}{12}$	h. $\frac{2}{7} = \frac{\ldots}{14}$
i. $\frac{8}{10} = \frac{4}{\ldots}$	j. $\frac{4}{6} = \frac{\ldots}{18}$	k. $\frac{4}{6} = \frac{\ldots}{3}$	l. $1 = \frac{12}{\ldots}$

• Ask your child how he/she find the missing numerator in ($\frac{1}{5} = \frac{?}{10}$) and how he/she find the missing denominator in ($\frac{8}{10} = \frac{4}{?}$).

Learn 4 Patterns of equivalent fraction

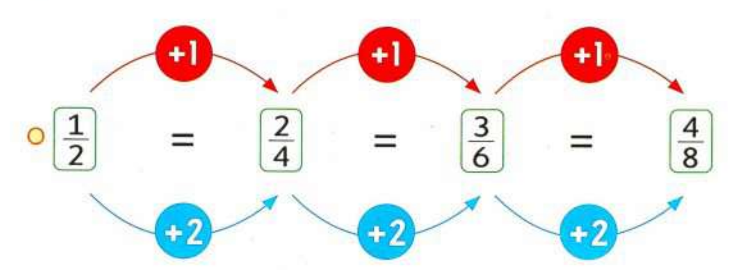
Discover the equivalent fraction to $\frac{1}{2}$.



$\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8}$

Your recognize that :

- The denominator is twice (double) of the numerator.
- The numerator is half of the denominator.



The numerator increases by one in each subsequent fraction and denominator increases by two.

Check

Complete the fraction and describe each of the following patterns. The first one is done for you.

$\frac{1}{3} = \frac{2}{6} = \frac{3}{9} = \frac{4}{12}$

Description of the pattern : The numerator increases by 1 and the denominator increases by 3.

a. $\frac{1}{4} = \frac{\ldots}{8} = \frac{\ldots}{12} = \frac{4}{\ldots}$

Description of the pattern : ……………………………

b. $\frac{2}{3} = \frac{\ldots}{6} = \frac{6}{\ldots} = \frac{\ldots}{12}$

Description of the pattern : ……………………………

Notes for parents

- Ask your child to define the number pattern, and ask him/her to give you an example of a pattern.

Exercise 18

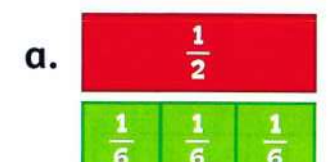
On Lessons 2 & 3

- **More of equivalent fractions**
- **Patterns of equivalent fractions**

From the school book

1 Complete. You may use fraction strips to help.

a.



$\frac{1}{2} = \frac{__}{6}$

b.

$\frac{3}{4} = \frac{__}{8}$

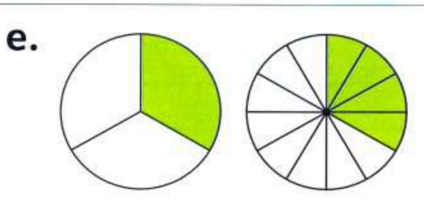
c.

$\frac{1}{4} = \frac{__}{8}$

d.

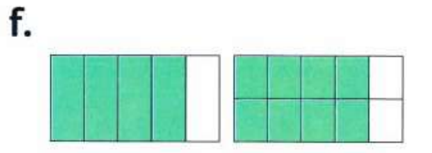
$\frac{3}{5} = \frac{__}{10}$

e.



$\frac{1}{3} = \frac{__}{12}$

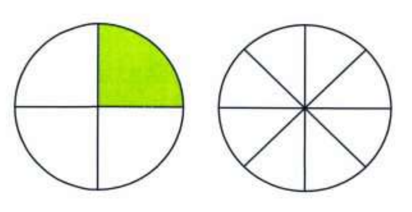
f.



$\frac{4}{5} = \frac{__}{10}$

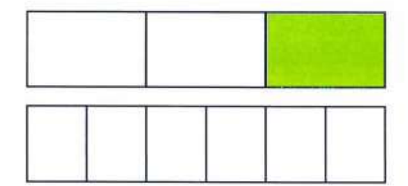
2 Color and write the equivalent fractions.

a.



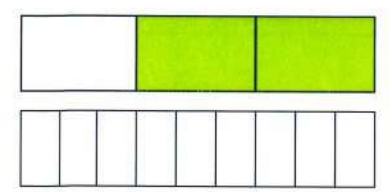
$\frac{1}{4} = \frac{__}{8}$

b.



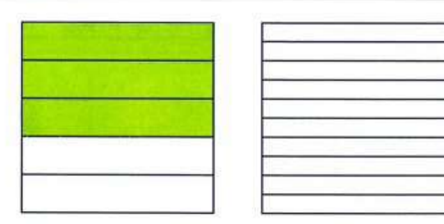
$\frac{1}{3} = \frac{__}{__}$

c.



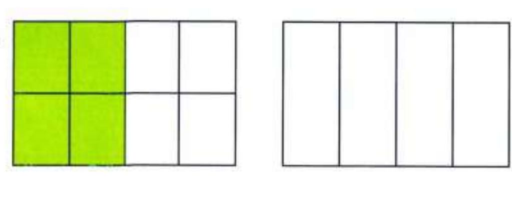
$\frac{2}{3} = \frac{__}{__}$

d.



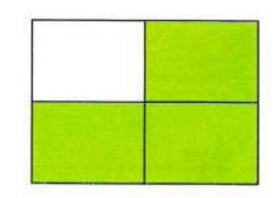
$\frac{3}{5} = \frac{__}{__}$

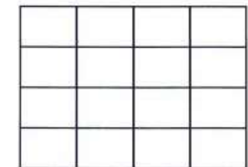
e.



$\frac{4}{8} = \frac{__}{__}$

f.

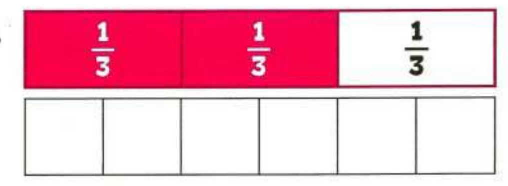




$\frac{3}{4} = \frac{__}{__}$

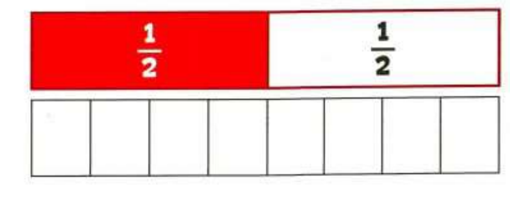
3 Color and write the equivalent fraction.

a.



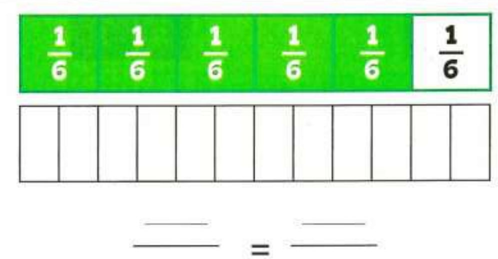
$\frac{2}{3} = \frac{__}{__}$

b.



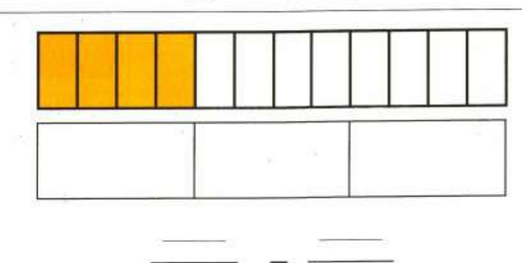
$\frac{1}{2} = \frac{__}{__}$

c.



$\frac{__}{__} = \frac{__}{__}$

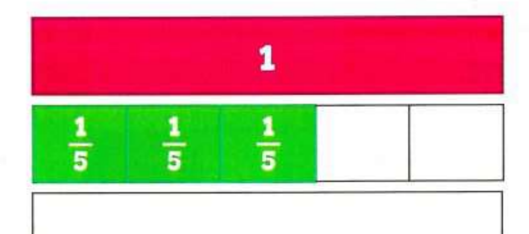
d.



$\frac{__}{__} = \frac{__}{__}$

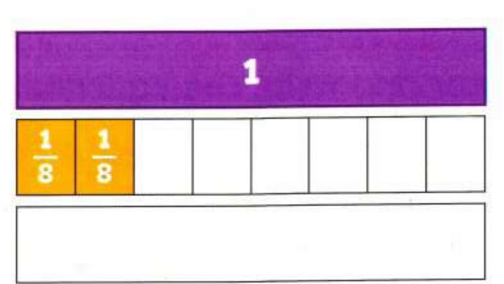
4 Use your fraction models to find equivalent fractions. Draw, shade and name each fraction.

a.



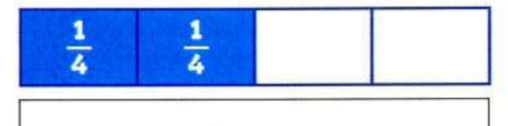
$\frac{3}{5} = \frac{__}{10}$

b.



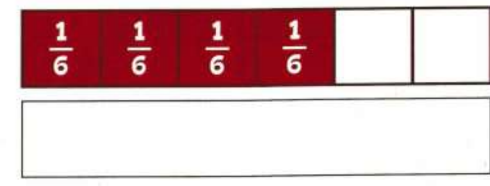
$\frac{2}{8} = \frac{__}{4}$

c.



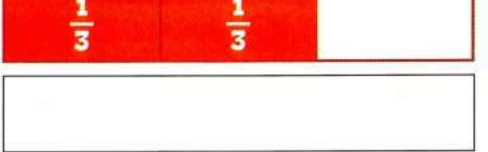
$\frac{2}{4} = \frac{__}{2}$

d.



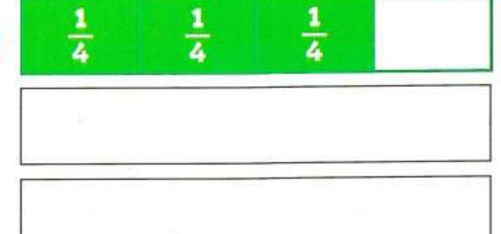
$\frac{4}{6} = \frac{__}{3}$

e.



$\frac{2}{3} = \frac{__}{__} = \frac{__}{__}$

f.



$\frac{3}{4} = \frac{__}{__} = \frac{__}{__}$

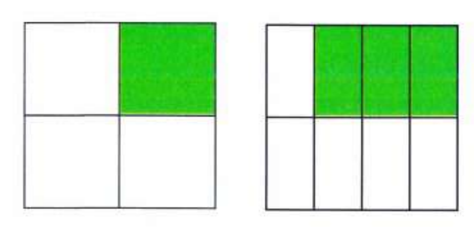
5 Write four equivalent fractions to the given fractions.

a. $\frac{1}{2} = \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$

b. $\frac{2}{6} = \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$

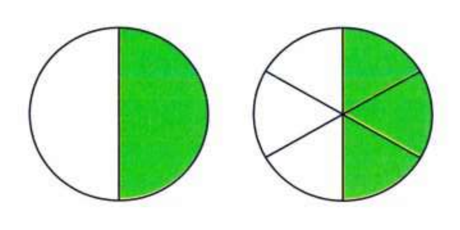
6 Write if the fractions are equivalent or not equivalent. You may use fraction strips to help.

a.



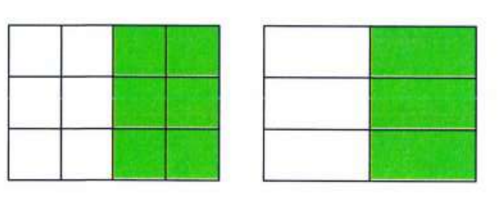
____

b.



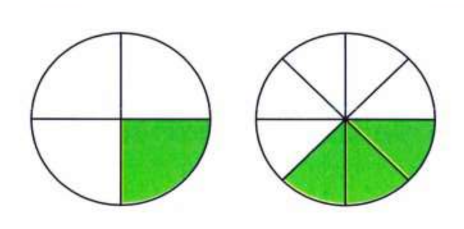
____

c.



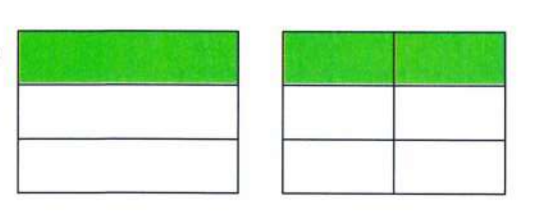
____

d.



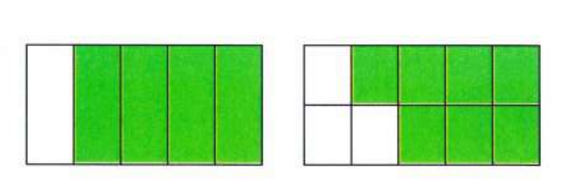
____

e.



____

f.



____

7 Complete.

a. $\frac{2}{3} = \frac{\quad}{15}$	b. $\frac{1}{4} = \frac{\quad}{16}$	c. $\frac{\quad}{5} = \frac{12}{20}$
d. $\frac{6}{8} = \frac{3}{\quad}$	e. $\frac{7}{\quad} = \frac{14}{16}$	f. $\frac{2}{7} = \frac{\quad}{21}$
g. $\frac{1}{5} = \frac{7}{\quad}$	h. $\frac{1}{2} = \frac{10}{\quad}$	i. $\frac{7}{14} = \frac{\quad}{2}$

8 Complete.

a. $\frac{3}{5} = \frac{__}{10} = \frac{12}{__}$

b. $\frac{2}{7} = \frac{6}{__} = \frac{__}{14}$

c. $\frac{__}{10} = \frac{1}{5} = \frac{3}{__}$

d. $\frac{2}{__} = \frac{6}{9} = \frac{__}{18}$

e. $\frac{3}{4} = \frac{__}{8} = \frac{9}{__}$

f. $\frac{1}{3} = \frac{3}{__} = \frac{2}{__} = \frac{__}{15}$

g. $\frac{2}{5} = \frac{__}{10} = \frac{14}{__} = \frac{__}{50}$

h. $\frac{__}{5} = \frac{12}{15} = \frac{__}{10} = \frac{40}{__}$

9 Write two equivalent fractions to each fraction.

a. $\frac{2}{3} = \frac{__}{__} = \frac{__}{__}$

b. $\frac{4}{12} = \frac{__}{__} = \frac{__}{__}$

c. $\frac{4}{6} = \frac{__}{__} = \frac{__}{__}$

d. $\frac{4}{10} = \frac{__}{__} = \frac{__}{__}$

e. $\frac{3}{9} = \frac{__}{__} = \frac{__}{__}$

f. $\frac{4}{20} = \frac{__}{__} = \frac{__}{__}$

10 Choose the correct answer.

a. $\frac{2}{5}$ = ________ ($\frac{2}{10}$ or $\frac{6}{15}$ or $\frac{4}{5}$ or $\frac{6}{20}$)

b. $\frac{6}{16}$ = ________ ($\frac{2}{4}$ or $\frac{12}{30}$ or $\frac{6}{6}$ or $\frac{3}{8}$)

c. $\frac{4}{12}$ = ________ ($\frac{1}{4}$ or $\frac{12}{24}$ or $\frac{8}{24}$ or $\frac{8}{12}$)

d. $\frac{2}{8}$ = ________ ($\frac{1}{4}$ or $\frac{4}{18}$ or $\frac{2}{18}$ or $\frac{4}{4}$)

e. $\frac{3}{4}$ = ________ ($\frac{4}{5}$ or $\frac{3}{40}$ or $\frac{2}{3}$ or $\frac{15}{20}$)

f. $\frac{2}{10}$ = ________ ($\frac{1}{2}$ or $\frac{10}{50}$ or $\frac{3}{30}$ or $\frac{10}{20}$)

g. Two thirds = Four ________ (thirds or fifths or sixths)

h. One fifth = Two ________ (tenths or eighths or sixths)

i. Three quarters = Six ________ (fourths or fifths or eighths)

j. One third = Three ________ (fourths or ninths or sixths)

k. Two fourths = ________ eighths (Two or Four or Six)

l. Three fifths = ________ tenths (Six or Eight or Ten)

11 **Complete the fractions and describe the numeric patterns and relationships you notice.**

a. $\frac{2}{3} = \frac{__}{6} = \frac{6}{__} = \frac{__}{12}$

Description of the pattern : ______________

b. $\frac{3}{5} = \frac{__}{10} = \frac{9}{__} = \frac{12}{__}$

Description of the pattern : ______________

c. $\frac{2}{7} = \frac{4}{__} = \frac{__}{21} = \frac{__}{28}$

Description of the pattern : ______________

d. $\frac{1}{8} = \frac{2}{__} = \frac{__}{24} = \frac{__}{32}$

Description of the pattern : ______________

e. $\frac{3}{4} = \frac{__}{8} = \frac{__}{12} = \frac{12}{__}$

Description of the pattern : ______________

f. $\frac{5}{6} = \frac{10}{__} = \frac{__}{18} = \frac{__}{24}$

Description of the pattern : ______________

g. $\frac{4}{5} = \frac{8}{__} = \frac{__}{15} = \frac{16}{__}$

Description of the pattern : ______________

Challenge

12 Laila was making a quilt. The pattern called for $\frac{2}{3}$ of a meter of fabric. She wanted to use many different pieces that were each $\frac{1}{6}$ meter long. How many pieces of fabric would she need ? Show your thinking in the box below. You can use your fraction models, draw bars, or any other examples or models that help you.

Lesson 4

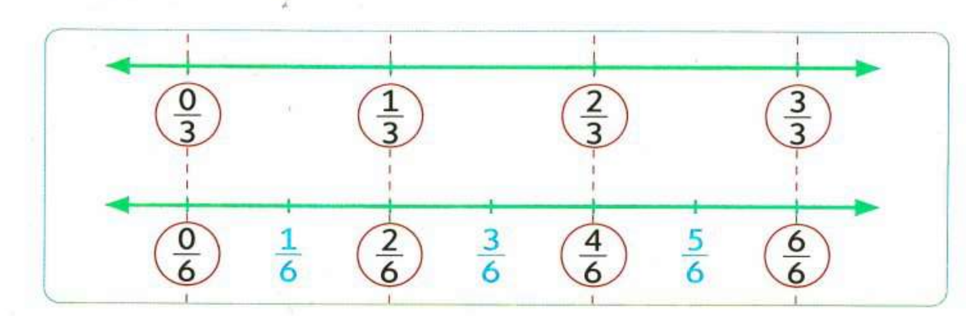
Equivalent fractions with the number line

Learn

You can use the number line to find the equivalent fraction.

For example :

Draw a number line divided into thirds, and one below it divided into sixths.



Remember

There are many ways to write 1 as a fraction in every case, the numerator and denominator are the same.

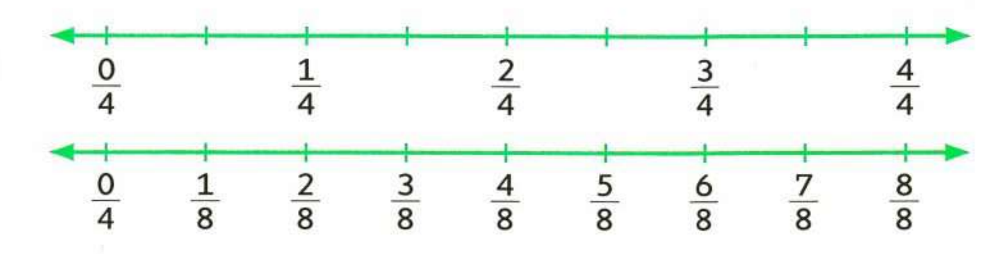
Fractions that line up above each other are equivalent, we observe that :

$\frac{0}{3} = \frac{0}{6} = 0$, $\frac{1}{3} = \frac{2}{6}$, $\frac{2}{3} = \frac{4}{6}$, $\frac{3}{3} = \frac{6}{6} = 1$

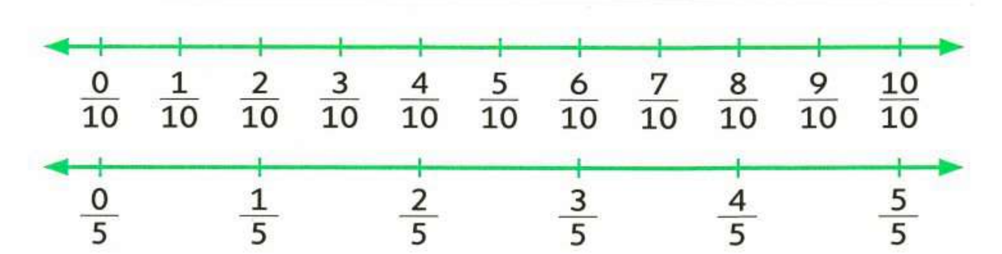
Check

Write the equivalent fraction to each of the following using the number line.

a. $\frac{3}{4} =$ ______



b. $\frac{4}{10} =$ ______



Notes for parents

- Ask your child why $\frac{2}{3} = \frac{4}{6}$?

Exercise **19**

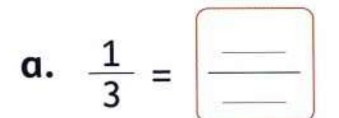
On Lesson 4

Equivalent fractions with the number line

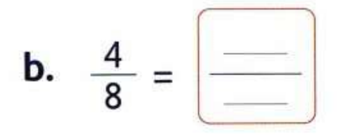
From the school book

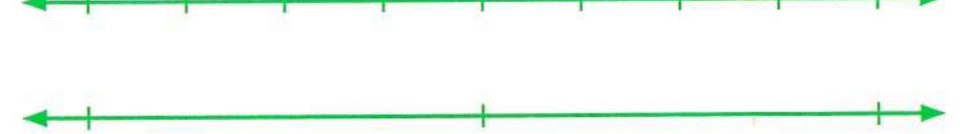
1 Write the equivalent fraction to each of the following using the number lines.

a. $\frac{1}{3} = \frac{___}{___}$

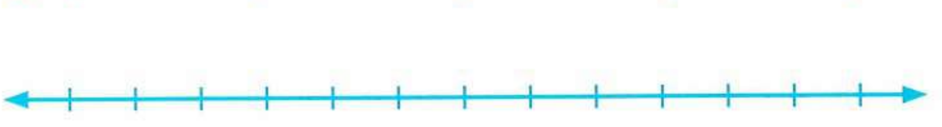


b. $\frac{4}{8} = \frac{___}{___}$

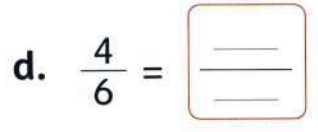




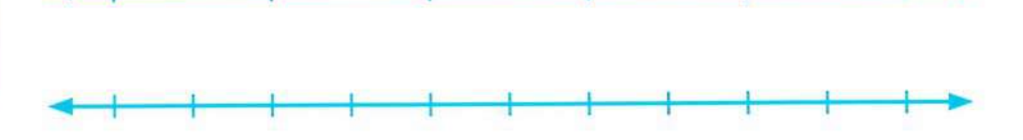
c. $\frac{3}{4} = \frac{___}{___}$



d. $\frac{4}{6} = \frac{___}{___}$

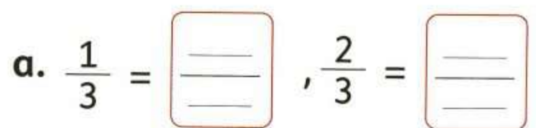


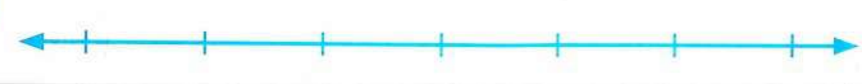
e. $\frac{3}{5} = \frac{___}{___}$

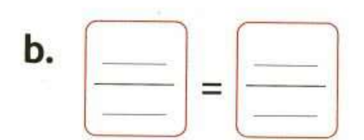


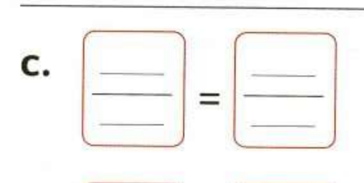
f. $\frac{6}{9} = \frac{___}{___}$

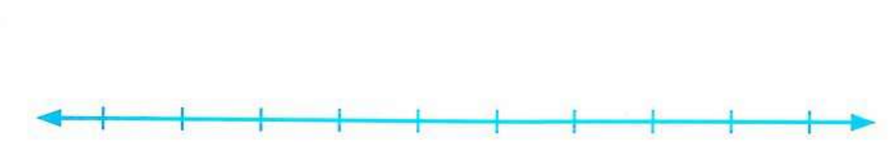
2 Complete by using the number lines.

a. $\frac{1}{3}$ =  , $\frac{2}{3}$ =



b. 

c. 

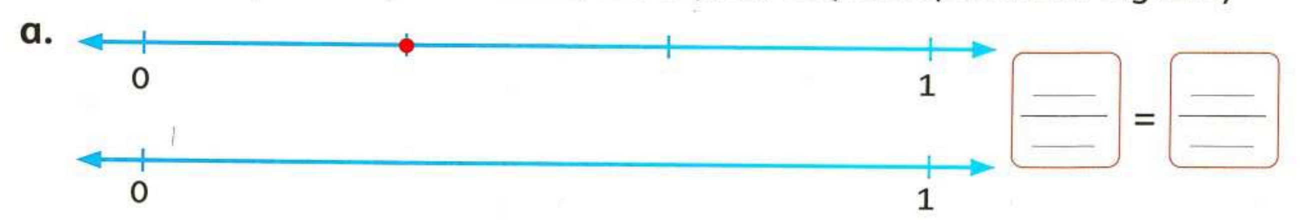


3 Write the fraction name for the dot on the first number line.

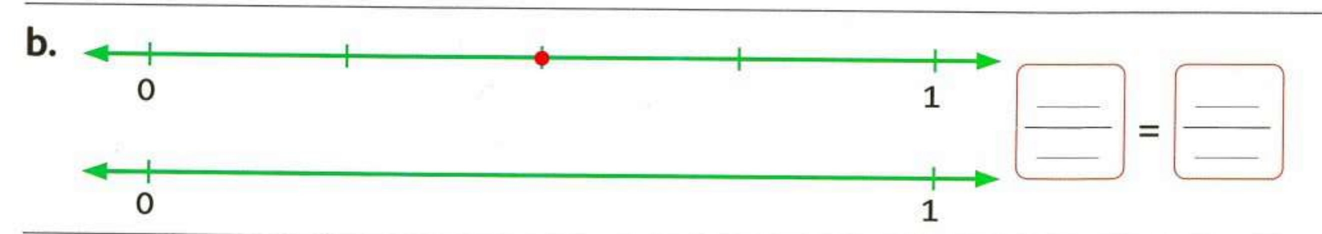
Use the second number line to show a fraction equivalent to the first fraction.

(You may use halves, thirds, fourths, fifths, sixths or eighths)

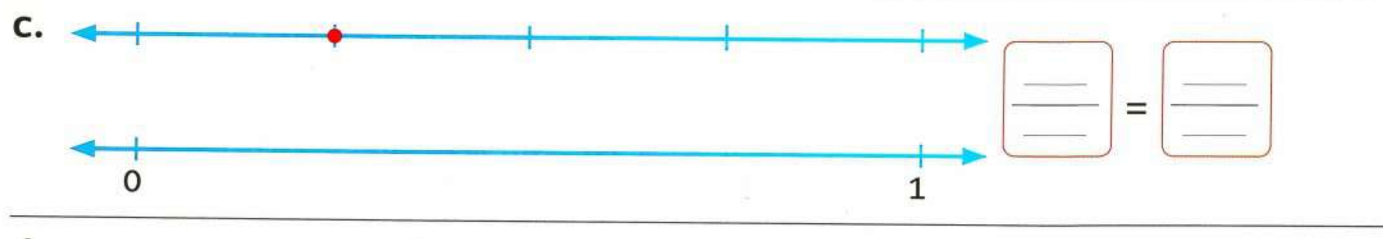
a.



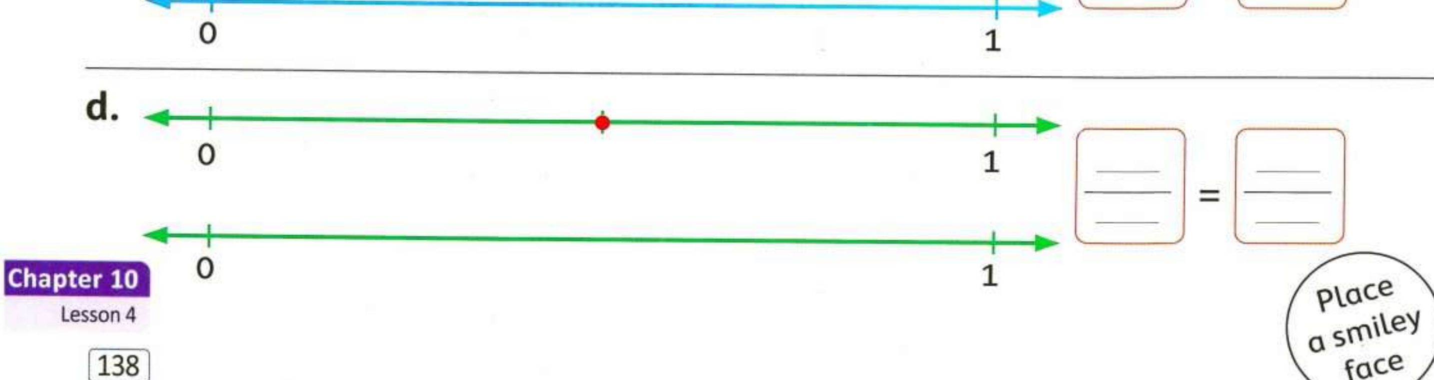
b.



c.



d.

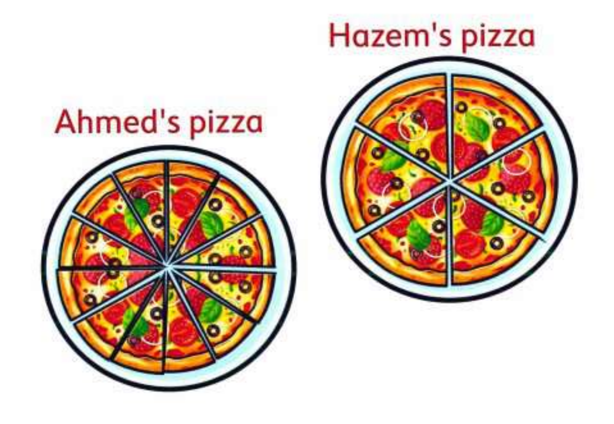


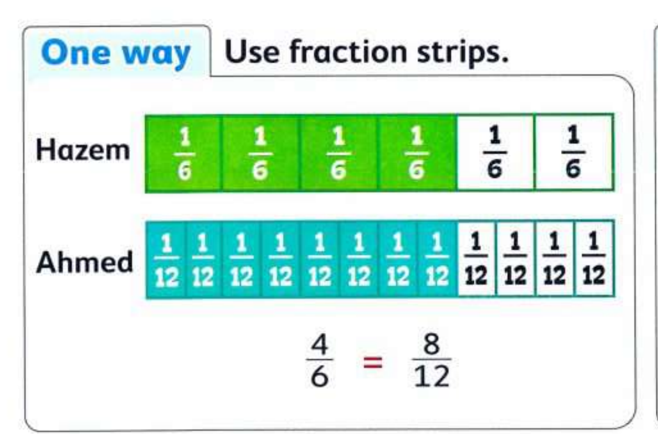
Lesson 5

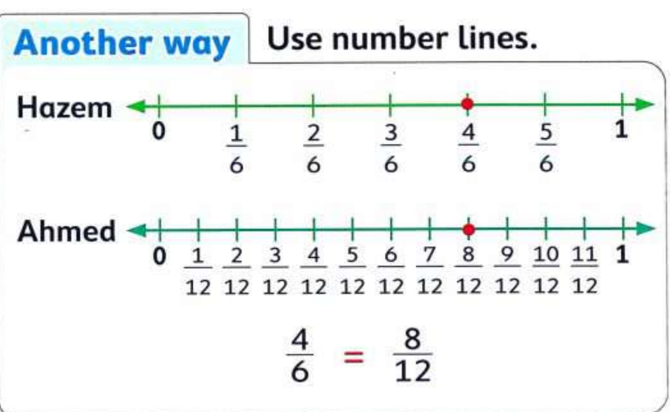
Applications on equivalent fractions

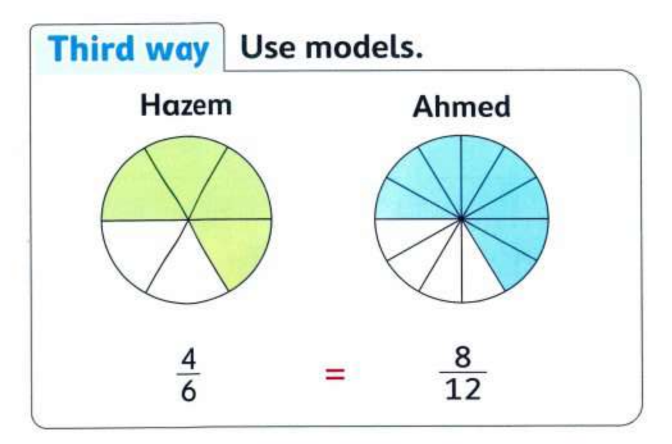
Learn

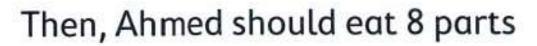
Hazem and Ahmed bought a pizza for each of the same size, if Hazem's pizza is divided into sixths, Ahmed's pizza is divided into twelfths, and Hazem ate 4 pieces from his pizza, how many parts of pizza should Ahmed eat to be equivalent what Hazem ate ?







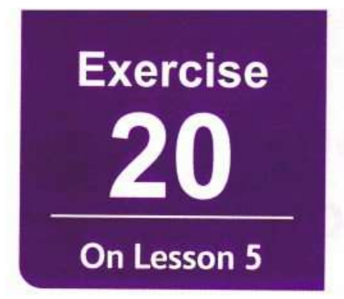




Then, Ahmed should eat 8 parts

Notes for parents

- Give your child two equivalent fractions (as : $\frac{1}{3} = \frac{2}{6}$) , then ask him/her to write a story problem using these two fractions.

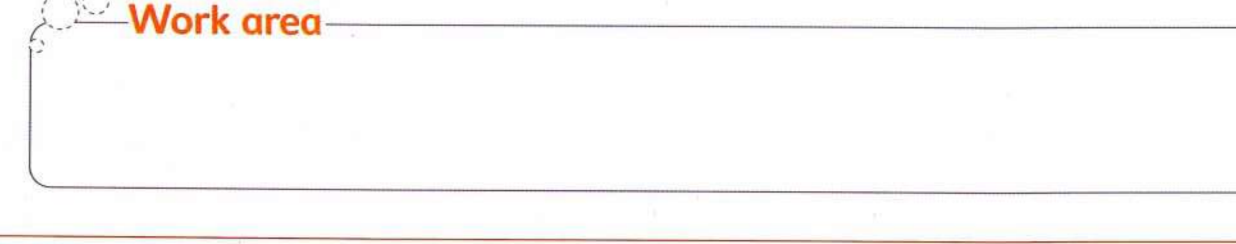


Applications on equivalent fractions

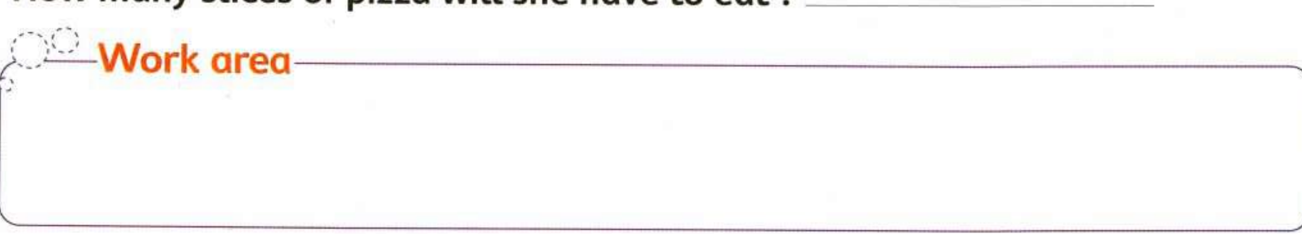
From the school book

Solve the following story problems by using fraction strips, number lines or models.

1 Habiba and Hatem both had 1 liter of juice.
Habiba said that her family drank $\frac{2}{4}$ of the liter.
Hatem said his family drank the same amount.
If Hatem measured his amount in eighths.
How much juice did his family drink ? ______



2 Jana and Menna each made a large pizza for dinner both pizzas were the same size. Jana's pizza was cut into sixths and Menna's pizza was cut into twelfths.
Jana ate $\frac{2}{6}$ of her pizza. If Menna wants to eat the same amount of pizza as Jana.
How many slices of pizza will she have to eat ? ______



3 Moutaz and Kamal were eating same-sized cakes.
Moutaz's cake was cut into thirds and Kamal's cake was cut into sixths. Moutaz ate 2 slices of his cake.
What fraction of his cake does Kamal have to eat to be the same amount as Moutaz ? ______

Work area

4 Nermin and Rawan were eating same-sized oranges. Nermin cut her orange into 8 equal pieces and ate 4 of the pieces. Rawan cut her orange into 4 equal pieces and ate the same amount as Nermin ate.

What fraction of the orange did Rawan eat ? ______________

Work area

5 Mom gave Walid and Naglaa candy bars that were the same size.

Walid ate $\frac{2}{3}$ of his candy bar. Naglaa ate $\frac{4}{6}$ of her candy bar.

Who ate more of their candy bar ? ______________

Work area

Challenge

6 Write your own story problem involving equivalent fractions, then solve it.

Work area

Place a smiley face

Lessons 6 & 7

- **Dividing using the bar models**
- **Story problems on division**

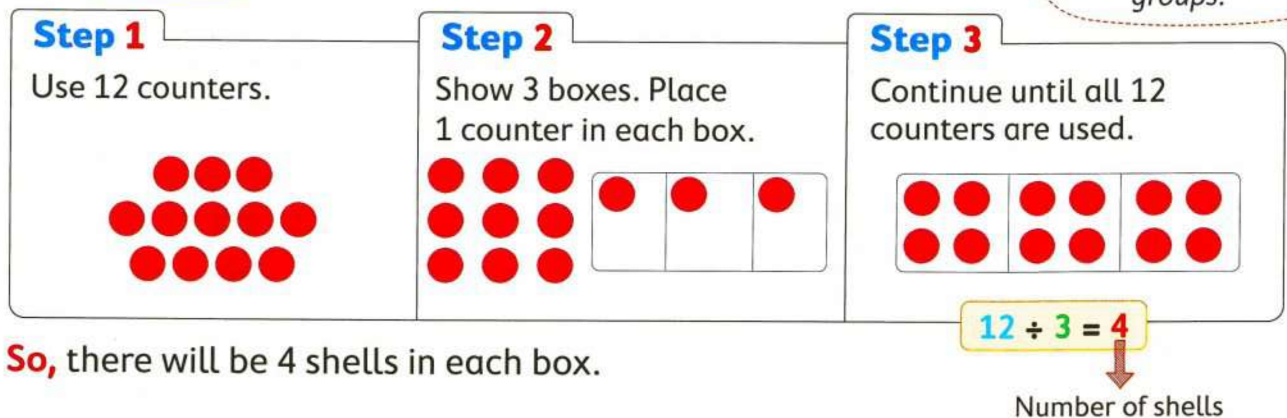
PROBLEM 1 :

Wael has 12 shells. He wants to put the same number of shells in each of 3 boxes.
How many shells will be in each box ?

To find the number of shells in each box, find $12 \div 3$ as follows :

Remember

When you multiply, you put equal groups together.
When you divide, you separate into equal groups.



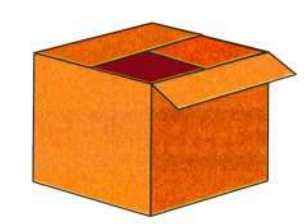
$12 \div 3 = 4$

Number of shells in each group

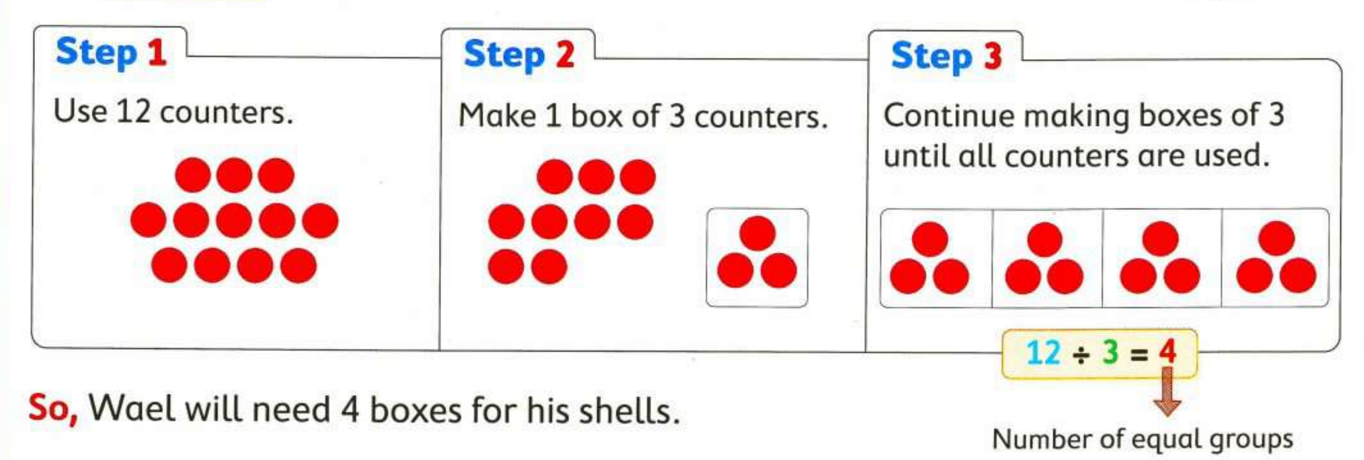
So, there will be 4 shells in each box.

PROBLEM 2 :

Wael has decided that he wants to put his 12 shells in groups of 3. How many boxes will he need for his shells ?
To find the number of boxes he needs,



find $12 \div 3$ as follows :



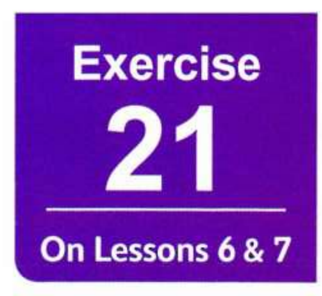
$12 \div 3 = 4$

Number of equal groups

So, Wael will need 4 boxes for his shells.

Notes for parents

- Revise with your child the meaning of the quotient.
- Let your child to use multiplication to check his/her answers.



• Dividing using the bar models
• Story problems on division

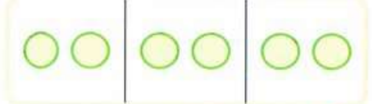
From the school book

1 Complete the table. Use counters to help.

Counters	Number of equal groups	Number in each group
14	7	______
21	______	3
20	5	______
32	______	8
24	______	4
35	7	______

2 Write a division equation for each bar model. Write the quotient as the example.

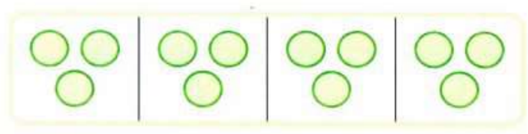
Example:



Division equation : 6 ÷ 3 = 2

The quotient = 2

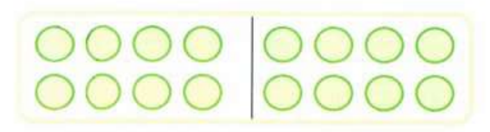
a.



Division equation : ______ ÷ ______ = ______

The quotient = ______

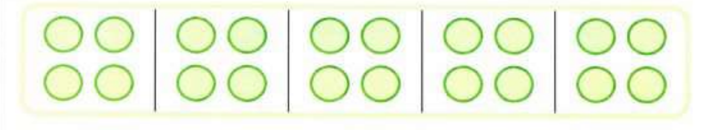
b.



Division equation : ______ ÷ ______ = ______

The quotient = ______

c.

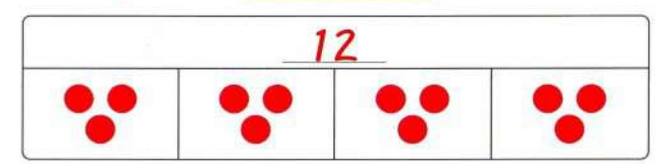


Division equation : ______ ÷ ______ = ______

The quotient = ______

3 Draw dots to find the quotient as the example.

Example: 12 ÷ 4

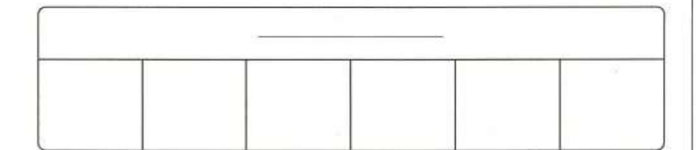


The quotient = 3

Math tip

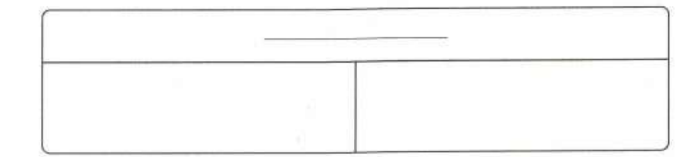
Draw one dot in each box. Continue drawing dots until you draw 12 dots. Count the dots in each box to be the quotient.

a. 12 ÷ 6



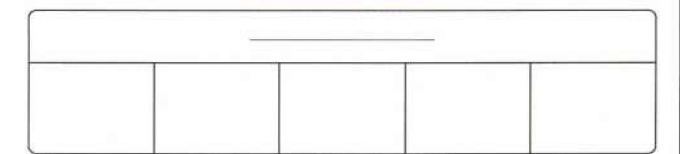
The quotient = ______

b. 8 ÷ 2



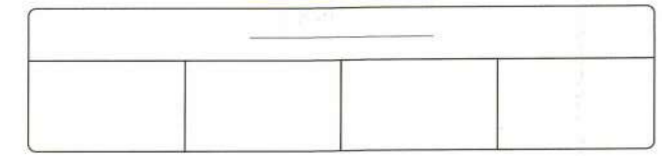
The quotient = ______

c. 15 ÷ 5



The quotient = ______

d. 16 ÷ 4



The quotient = ______

4 Complete the bar model to find the quotient as the example.

Example: **12 ÷ 4**

12 ÷ 4 = 3

Math tip

Continue writing 4s until you have the sum of 12

4 + 4 + 4 = 12

a. **15 ÷ 3**

3	

15 ÷ 3 = ______

b. **20 ÷ 5**

5	

20 ÷ 5 = ______

c. **28 ÷ 7**

7	

28 ÷ 7 = ______

d. **18 ÷ 6**

6	

18 ÷ 6 = ______

5 I have 20 figs to divide evenly between 4 plates.

How many figs should I put on each plate ?

Work area

20

_____ ÷ _____ = _____ _____ figs

---

6 There are 28 crayons in the classroom that need to be placed in 4 cups. Each cup must have the same number of crayons.

How many crayons will be in each cup ?

Work area

28

_____ ÷ _____ = _____ _____ crayons

---

7 Omar has 18 pieces of candy. He wants to give the same amount to each of his 6 friends. **How many pieces would each friend get ?**

Work area

18

_____ ÷ _____ = _____ _____ candies

---

8 Diaa placed 40 marbles in rows of 5.

How many rows did he make ?

Work area

40

_____ ÷ _____ = _____ _____ rows

9 Omnia studied 14 hours. If she studied 2 hours each day.

How many days did she study ?

Work area

14

_____ ÷ _____ = _____ _____ days

10 Diaa has 36 toys he would like to split evenly among 6 friends.

How many toys should each friend receive ?

Work area

36

_____ ÷ _____ = _____ _____ toys

11 Write your own grouping story problem that matches the bar model below. **The bar model is not finished.**

Work area

32

4	

____

____

Challenge

12 Amer has 25 stamps and Marian has 15 stamps.
They put their stamps in the same book.
Each page has 5 stamps.

How many pages did they fill ?

Work area

Place a smiley face

Lesson 8

The relation between multiplication and division

PROBLEM

Bassem's pack of modeling clay has 2 rows of 5 colors.

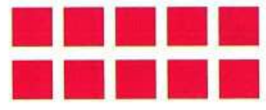
What is the fact family for the problem ?

Step 1

Count the number of rows and the number of colors in each row in the pack of clay.
There are 2 rows with 5 colors in each row.

Step 2

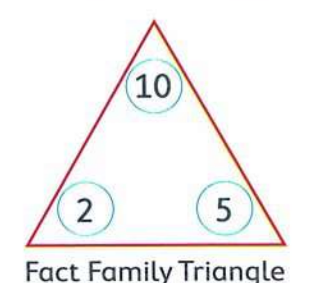
Make an array with 2 rows of 5.
Count the total number of tiles.
There are 10 tiles.



Step 3

Write two multiplication equations and two division equations that describe the array.

$2 \times 5 = 10$	$10 \div 5 = 2$
$5 \times 2 = 10$	$10 \div 2 = 5$



Fact Family Triangle

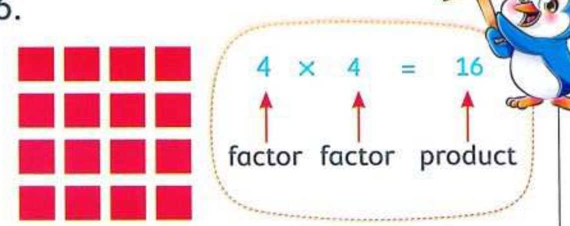
So, these related number equations make the fact family for 2, 5 and 10.

Note

The array shows the fact family for 4 , 4 and 16.

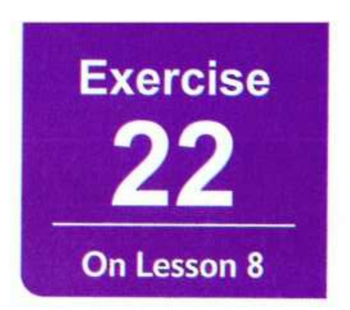
Since both factors are the same, there are only two number equations in this fact family.

$4 \times 4 = 16$	$16 \div 4 = 4$



Notes for parents

- Ask your child to write another set of numbers that has only two number sentences in the fact family for it.

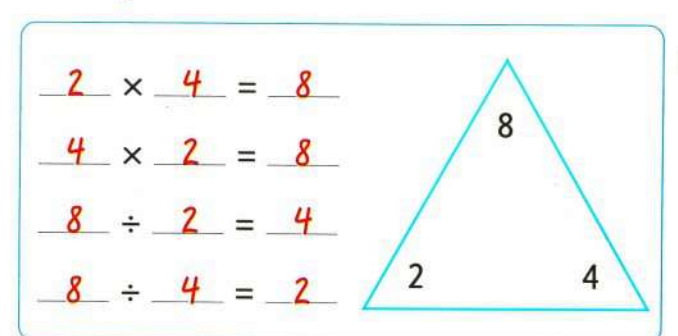


The relation between multiplication and division

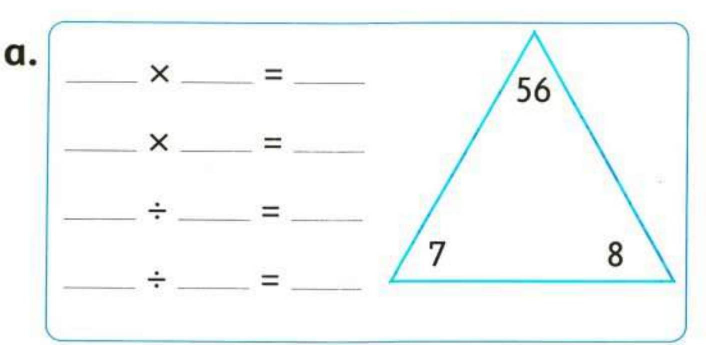
From the school book

1 Write the fact family for each set of numbers in each triangle as the example.

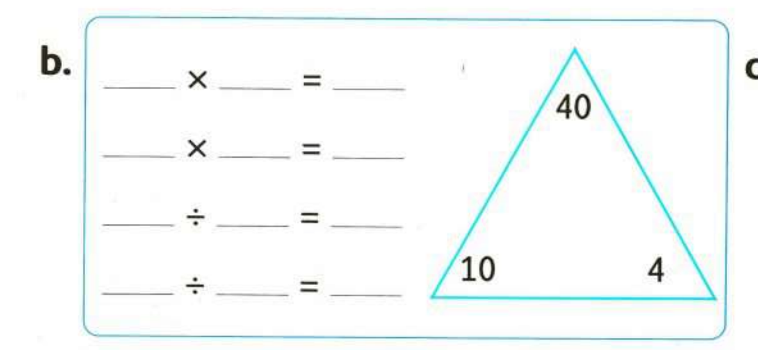
Example:



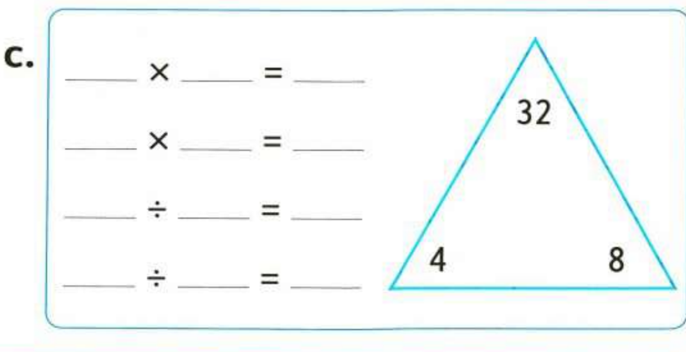
a.



b.

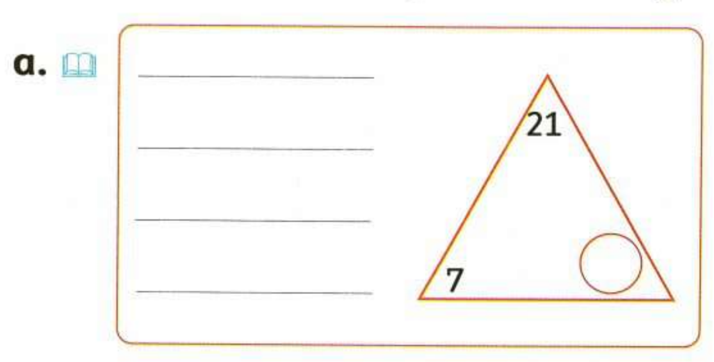


c.

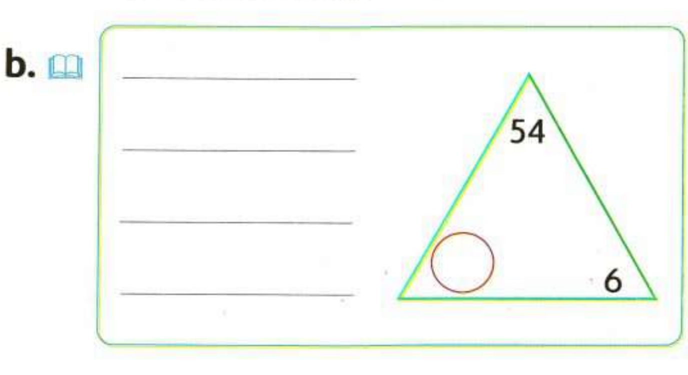


2 Find the missing factor in each triangle below. Then write the four numbers equations that go with the fact family.

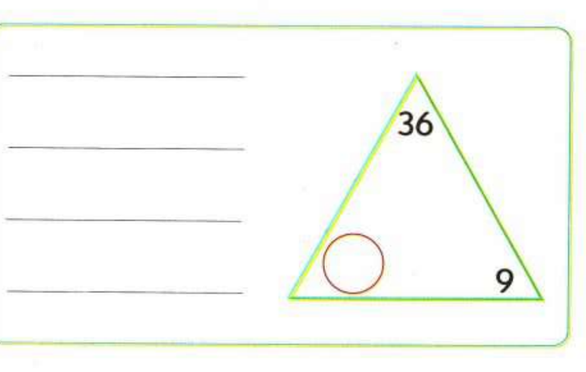
a.



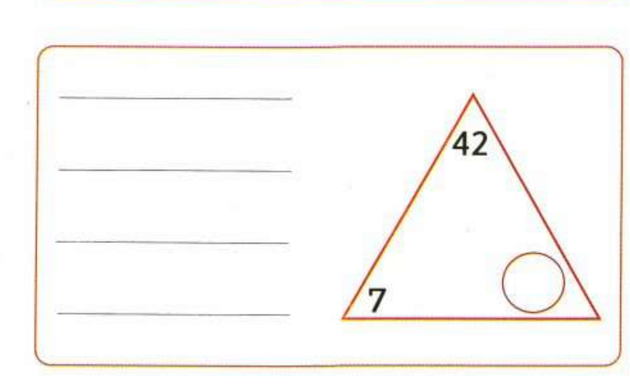
b.

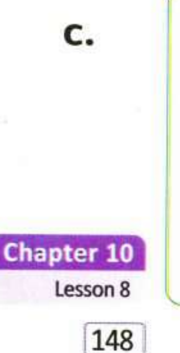


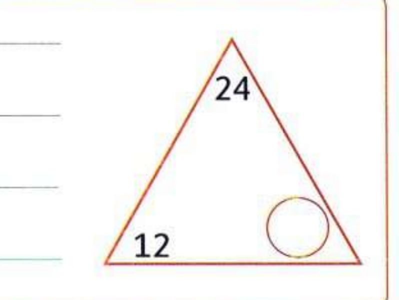
c.

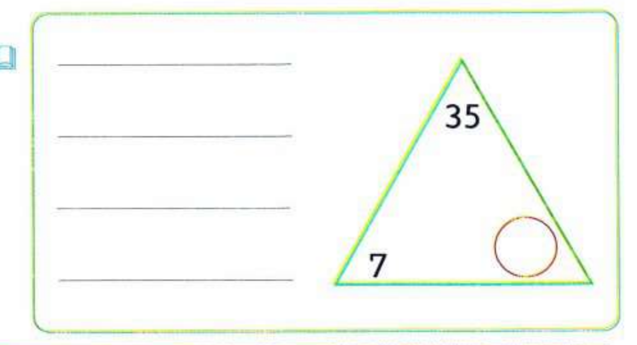


d.





e. 

f. 

3 Choose which number equations is not included in the same fact family.

a. $7 \times 4 = 28$

- ◯ $28 \div 7 = 4$
- ◯ $5 \times 7 = 35$
- ◯ $28 \div 4 = 7$

b. $18 \div 3 = 6$

- ◯ $18 \div 6 = 3$
- ◯ $3 \times 6 = 18$
- ◯ $9 \times 2 = 18$

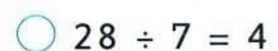
c. $42 \div 7 = 6$

- ◯ $7 \times 6 = 42$
- ◯ $6 \times 7 = 42$
- ◯ $30 \div 5 = 6$

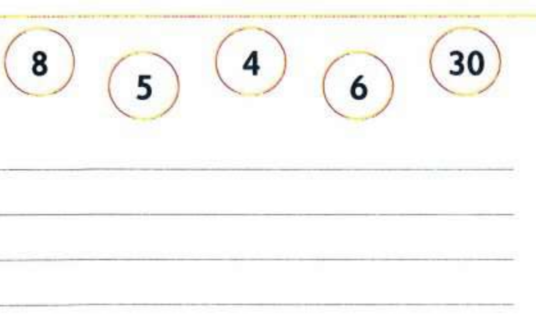
4 Complete.

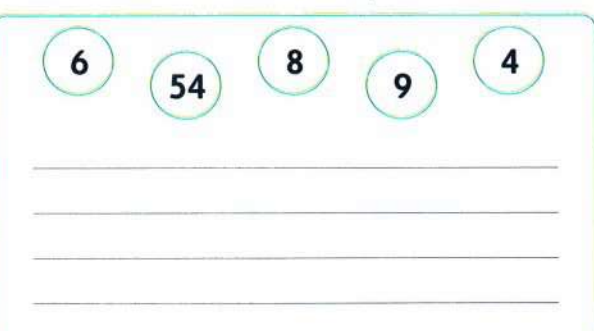
a. If $3 \times 5 = 15$, then $15 \div$ ______ $= 3$ and $15 \div$ ______ $= 5$

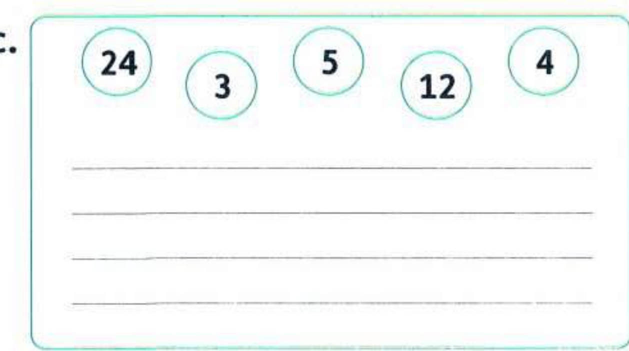
b. If $10 \div 2 = 5$, then ______ $\times 5 = 10$ and ______ $\times 2 = 10$

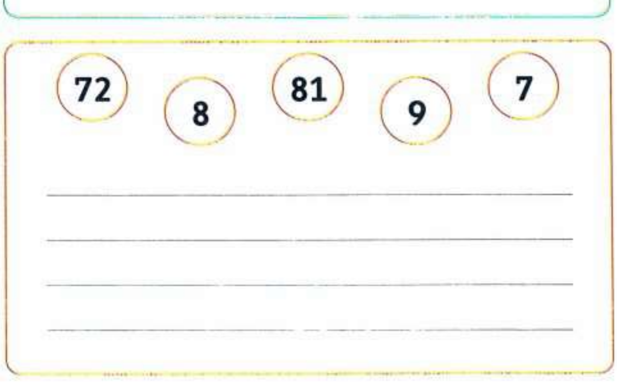


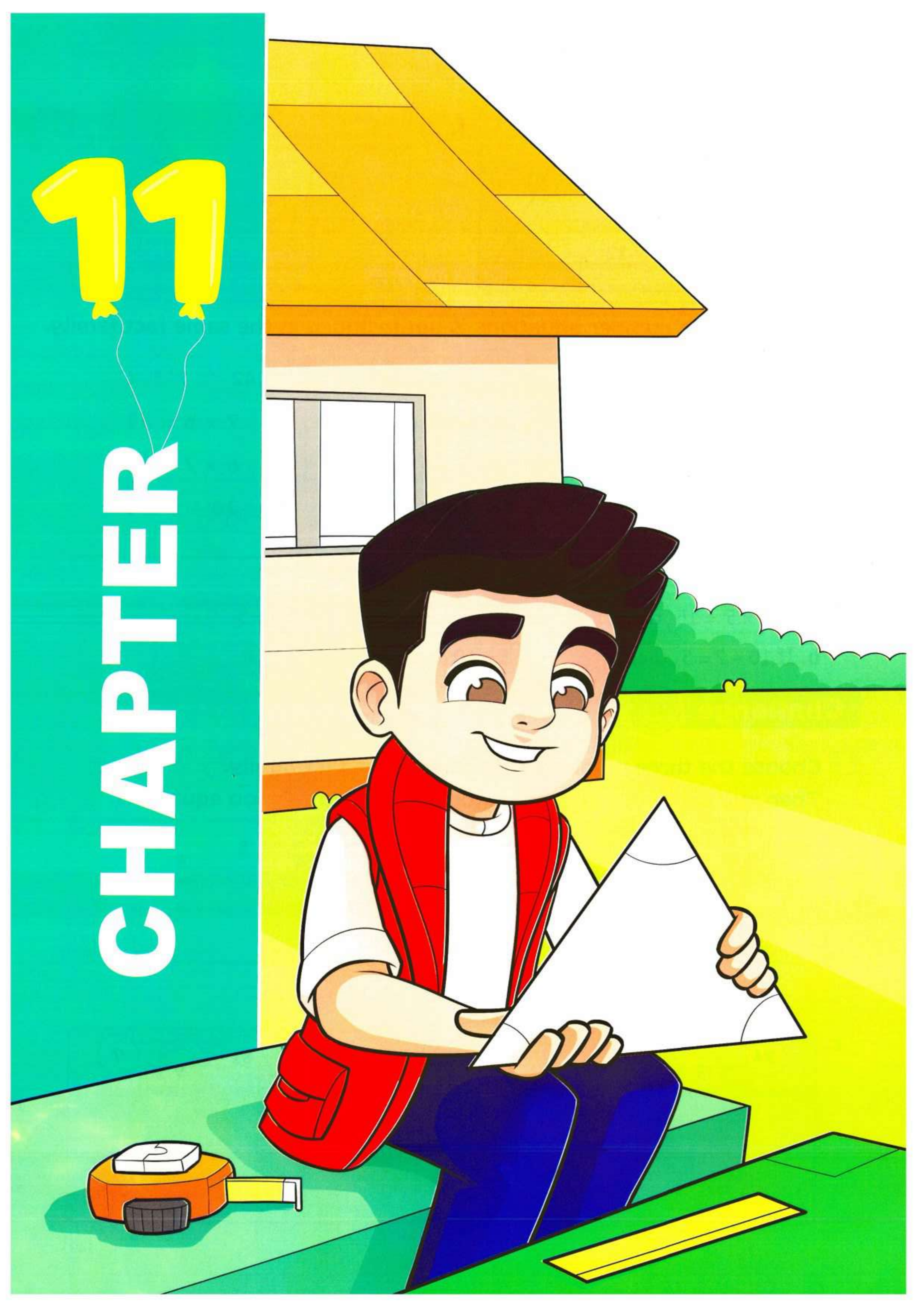
5 Choose the three numbers that can make a fact family.
Then write the four related multiplication and division equations.

a. 

b. 

c. 

d. 


11
CHAPTER

Outcomes of chapter eleven :

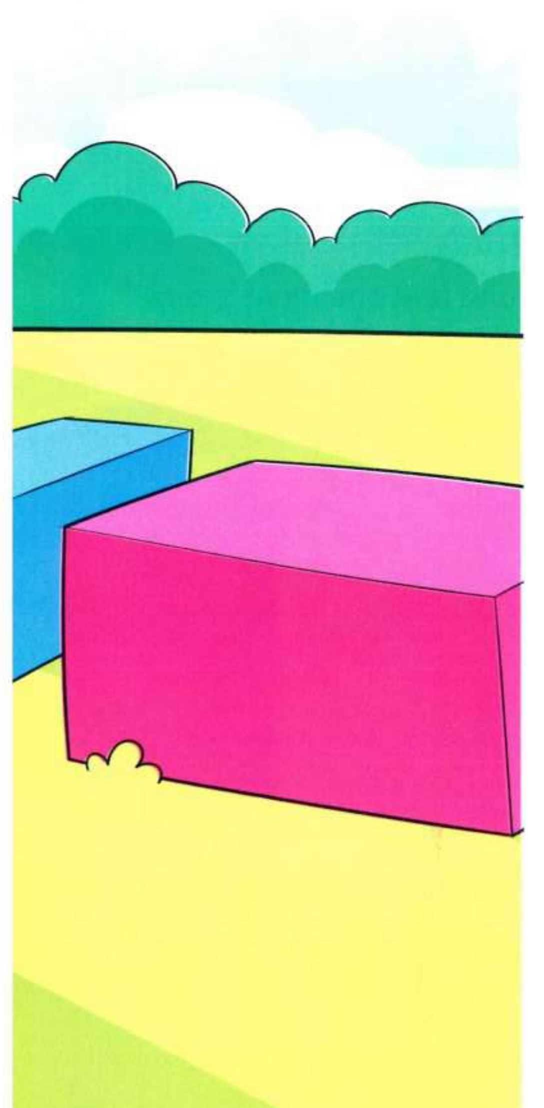
At the end of chapter eleven, your child will be able to:

▶ **Lesson 1 :**

- **Multiplication facts with different strategies**
- Develop fluency in multiplying one-digit numbers.
- Identify strategies to help him/her remember multiplication facts.

▶ **Lessons 2 to 4 :**

- **Story problems on multiplication and division**
- **Creating story problems on multiplication**
- **Creating story problems on division**
- Investigate relationships between numbers in multiplication and division fact families.
- Write equations to represent multiplication and division relationships within a fact family.
- Explain how he/she can use the relationship between multiplication and division fact families to master math facts.
- Use a symbol to represent an unknown number in an equation.
- Write equations with one unknown number to represent story problems.
- Solve equations with one unknown.
- Write story problems that represent given equations.
- Apply strategies to solve multiplication story problems.
- Apply strategies to solve division story problems.
- Define division.



▶ **Lesson 5 :**

- **Story problems on the perimeter and the area**
- Find the area and perimeter of quadrilaterals.
- Find the perimeter of shapes that are not quadrilaterals.
- Collaborate to write class definitions of area and perimeter.

▶ **Lesson 6 :**

- **The perimeter for a given area and a side length**
- Determine the perimeter of a rectangle when given the area and one dimension.

▶ **Lesson 7 :**

- **Applications on the perimeter and the area**
- Make a house design project to demonstrate understanding of area and perimeter.

Lesson 1

Multiplication facts with different strategies

Learn

- You can multiply by using a variety of strategies to practice on multiplication and this is the best way to build fluency with multiplication facts.

Here are some useful multiplication strategies :

Multiplying by 0

The product equals 0

Example : 0×7

$0 \times 7 = 0$

The product always equals 0

1 as a factor

The product equals the same factor.

Example : 1×6

$1 \times 6 = 6$

The product equals the same factor.

2 as a factor

- Double it

or
- Skip count by 2s

Example : 2×3

$3 + 3 = 6$

or

2 , 4 , 6

Double 3 "add 3 to itself"

or

count by 2s three times.

3 as a factor

- Double and add one more group of the second factor

or
- Count by 3s

Example : 3×4

$2 \times 4 = 8$

$8 + 4 = 12$

or

3 , 6 , 9 , 12

Double 4 and then add another group of 4

or

count by 3s four times.

4 as a factor

Double the double.

Example : 4×6

$2 \times 6 = 12$

$12 + 12 = 24$

Double 6 and then double the product 12 to get the product 24.

5 as a factor

Count by 5s

Example : 5×4

5 , 10 , 15 , 20

Count by 5s four times.

Notes for parents

- Ask your child to mention the strategy he/she used to solve each multiplication problem. Let him/her tell which table he/she is suitable with its problems.

6 as a factor

Multiply by 5 and add one more group of the second factor.

Example : 6×7

$7 \times 5 = 35$

$35 + 7 = 42$

Multiply by 5 and add another group of 7.

7 as a factor

Multiply by 5 and 2, then add the products together "use distributive property of multiplication".

Example : 7×4

$5 \times 4 = 20$

$2 \times 4 = 8$

$20 + 8 = 28$

Multiply by 5 , multiply by 2 and add the products.

8 as a factor

- Double 4s facts

or
- Multiply by 5s and 3s then add the products together "use distributive property of multiplication".

Example : 8×6

$4 \times 6 = 24$

$24 + 24 = 48$

Double 4s facts and add 24 to itself

or

$5 \times 6 = 30$

$3 \times 6 = 18$

$30 + 18 = 48$

or

multiply by 5 and multiply by 3, then add the products.

9 as a factor

Finger trick.

Example : 9×6

$9 \times 6 = 54$

Count the fingers to the sixth finger and count the rest fingers.

10 as a factor

Put 0 after the other factor.

Example : 10×8

$10 \times 8 = 80$

Put 0 after 8.

11 as a factor

Multiply by 10 and add one more group of the second factor "use distributive property of multiplication".

Example : 11×4

$10 \times 4 = 40$

$40 + 4 = 44$

Multiply by 10 and add one more group of 4.

12 as a factor

Multiply by 10 and 2, then add the products together "use distributive property of multiplication".

Example : 12×6

$10 \times 6 = 60$

$2 \times 6 = 12$

$60 + 12 = 72$

Multiply by 10 and multiply by 2, then add the products.

• Ask your child which strategy does he/she prefer to use and apply.

Exercise
23
On Lesson 1

Multiplication facts with different strategies

From the school book

1 Use strategies to correct the products.

a. 7 × 5 = 30

b. 2 × 4 = 6

c. 11 × 6 = 60

d. 9 × 9 = 80

e. 4 × 6 = 25

f. 12 × 4 = 36

g. 5 × 5 = 35

h. 7 × 8 = 48

i. 6 × 6 = 30

2 Solve the multiplication problems below.

First	Second	Third	Fourth
a. 9 × 7 = ____	a. 3 × 1 = ____	a. 9 × 3 = ____	a. 8 × 5 = ____
b. 12 × 2 = ____	b. 11 × 7 = ____	b. 3 × 3 = ____	b. 4 × 4 = ____
c. 8 × 2 = ____	c. 10 × 10 = ____	c. 10 × 3 = ____	c. 10 × 4 = ____
d. 6 × 8 = ____	d. 9 × 5 = ____	d. 5 × 2 = ____	d. 5 × 3 = ____
e. 11 × 3 = ____	e. 9 × 4 = ____	e. 8 × 4 = ____	e. 6 × 6 = ____
f. 8 × 6 = ____	f. 7 × 1 = ____	f. 9 × 8 = ____	f. 10 × 8 = ____
g. 10 × 6 = ____	g. 6 × 2 = ____	g. 7 × 3 = ____	g. 6 × 4 = ____
h. 12 × 1 = ____	h. 4 × 2 = ____	h. 3 × 4 = ____	h. 11 × 5 = ____
i. 8 × 1 = ____	i. 6 × 5 = ____	i. 9 × 5 = ____	i. 4 × 1 = ____
j. 8 × 7 = ____	j. 0 × 12 = ____	j. 1 × 9 = ____	j. 8 × 3 = ____

3 Match the equal products.

a.	3 × 6	8 × 3
b.	6 × 4	6 × 6
c.	10 × 4	12 × 4
d.	6 × 8	9 × 2
e.	4 × 9	5 × 8

4 Compare the following products using "> , < or =".

a. 4 × 8 ◯ 11 × 3		b. 4 × 10 ◯ 3 × 11	
c. 1 × 0 ◯ 0 × 10		d. 1 × 9 ◯ 0 × 12	
e. 3 × 9 ◯ 7 × 4		f. 5 × 8 ◯ 3 × 10	
g. 12 × 5 ◯ 10 × 6		h. 2 × 7 ◯ 5 × 7	
i. 7 × 10 ◯ 9 × 8		j. 7 × 9 ◯ 8 × 5	
k. 2 × 12 ◯ 4 × 6		l. 4 × 12 ◯ 5 × 11	
m. 6 × 9 ◯ 8 × 7		n. 7 × 6 ◯ 6 × 7	

5 Solve the following multiplication tables.

a.

×	1	4	3	10	9	7
5						

b.

×	8	1	5	10	9	12
2						

c.

×	2	7	11	8	3	10
6						

d.

×	3	8	12	9	6	2
4						

e.

×	0	2	10	12	9	4
7						

f.

×	2	7	10	8	6	11
3						

Challenge

6 Who am I ?

a. The product is an even number less than 27. One factor of the product is 3. Another factor of the product is 8.

What number am I ?

____

b. I have a zero in my Ones place.
One of my factros is 4.
I am the double of 10.

What number am I ?

____

c. If you double the number in my Tens place, you get the number in my Ones place. I am a product of the same factors multiplied together.I have a factor of 12.

What number am I ?

____

d. I have 6 different factors.
I have a 1 in the Tens place.
6 is one of my factors.

What numbers might I be ?

__________ or __________

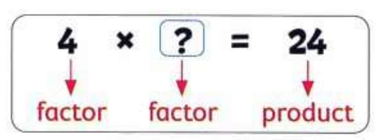
Place a smiley face

Lessons 2 to 4

- Story problems on multiplication and division
- Creating story problems on multiplication
- Creating story problems on division

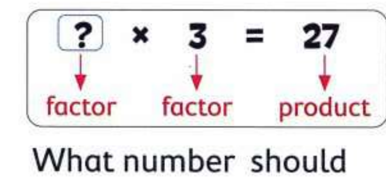
Learn 1 Solving equations with one unknown

- You can think and use fact family triangle to solve equations with unknown number and here are some examples to show.



4 × ? = 24
factor factor product

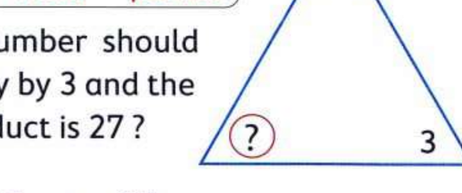
What number should multiply by 4 and the product is 24 ?



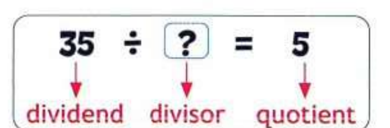
4 × 6 = 24

? × 3 = 27
factor factor product

What number should multiply by 3 and the product is 27 ?

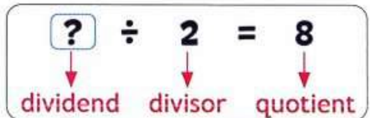


9 × 3 = 27



35 ÷ ? = 5
dividend divisor quotient

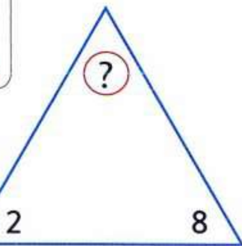
What number should 35 divide by to have the quotient is 5 ?



35 ÷ 7 = 5

? ÷ 2 = 8
dividend divisor quotient

What number should divide by 2 and the quotient is 8 ?

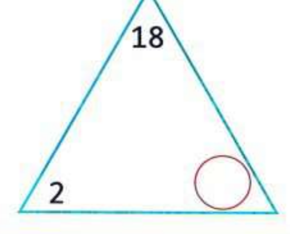


16 ÷ 2 = 8

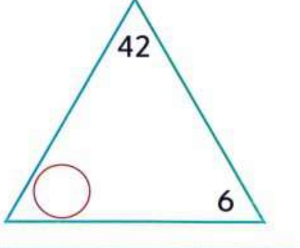
Check

Determine the missing number in each equation.

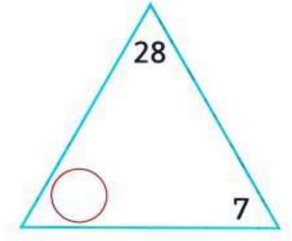
2 × ☐ = 18



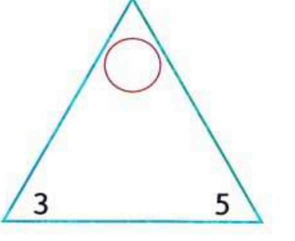
☐ × 6 = 42



28 ÷ ☐ = 7



☐ ÷ 3 = 5



Notes for parents

- Help your child determine the missing numbers and let him/her explain how to solve it using fact family triangle.

Learn 2 Story problems on multiplication and division

Bassem just has to look at his collection to remember the fun places he has been.
He collects a postcard from every place he visit.

Examples :

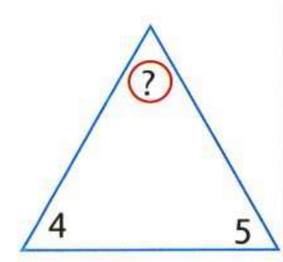
- Bassem has 4 groups of 5 postcards.

  How many postcards does he have ?

  The problem is : $4 \times 5 = ?$

  Think :

  $4 \times 5 = 20$



So, he has 20 postcards.

- Bassem puts 20 postcards in equal groups of 5.

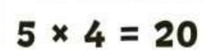
  How many groups are there ?

  The problem is : $20 \div 5 = ?$

  Think :

  What number should multiply by 5 and the product is 20 ?

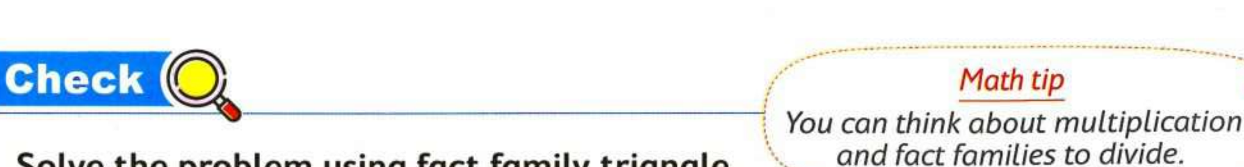
  "Use fact family"



  $5 \times 4 = 20$

  Then : $20 \div 5 = 4$

So, there are 4 groups.



Check

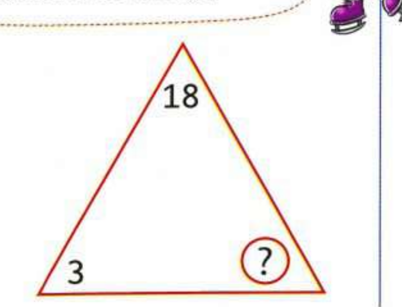
Math tip
You can think about multiplication and fact families to divide.

Solve the problem using fact family triangle.

Sylvia wants to distribute 18 apples among 3 boxes.

How many apples in each box ?

Problem equation : ____________________



Notes for parents

- Ask your child to mention you the used multiplication fact to solve the check problem.

Creating multiplication and division story problems relate to a question

Tips to write a story problem :

- Think about real life situation represents the problem.
- Always end the story with a question.
- You may draw a picture to show the main idea.

Example :

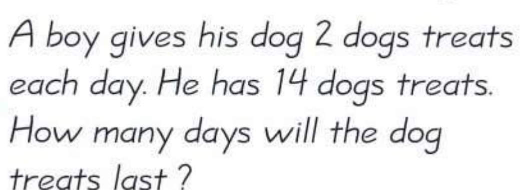
Maria wrote a multiplication story for 4 × 3 = ☐

A girl had 4 cats. Her cats liked to run, jump, and play with toys. The girl bought 3 toys for each cat. How many toys did she buy ?

She bought **12** toys.

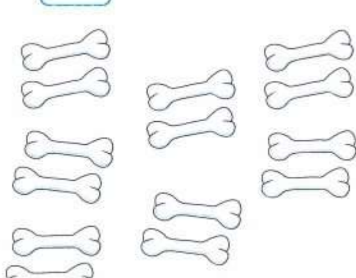
Example :

Asser wrote a division story for 14 ÷ 2 = ☐



A boy gives his dog 2 dogs treats each day. He has 14 dogs treats. How many days will the dog treats last ?

It will last for **7** days.



Youssef wrote the opposite story problem as a multiplication story problem, is he right ?
If it is wrong, correct the story to match a multiplication story problem.

Perry had 12 eggs. She used 3 eggs to make one muffin. How many muffins did she make ?

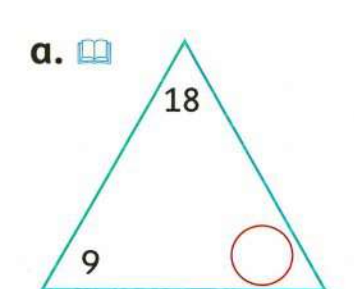
____

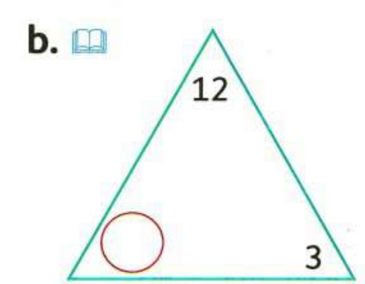
- Let your child to talk about the story before writing it and figure out the situation. Use the last lessons as a guide to help in writing story problems.

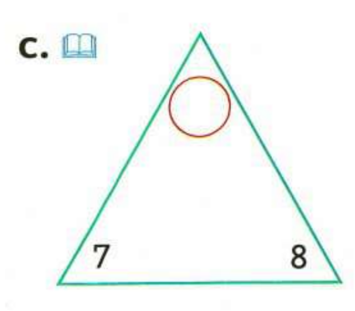
- Story problems on multiplication and division
- Creating story problems on multiplication
- Creating story problems on division

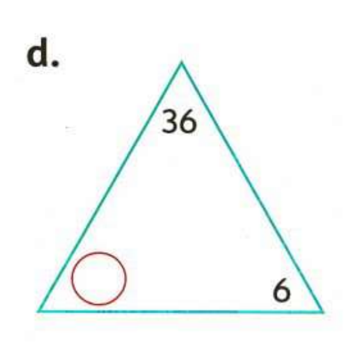
From the school book

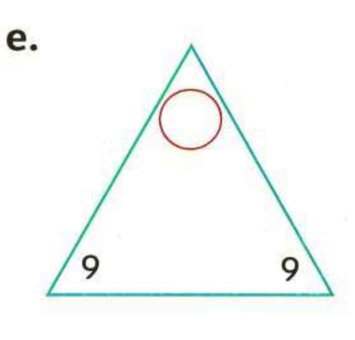
1 For each of the following triangles. Determine the unknown and record it.

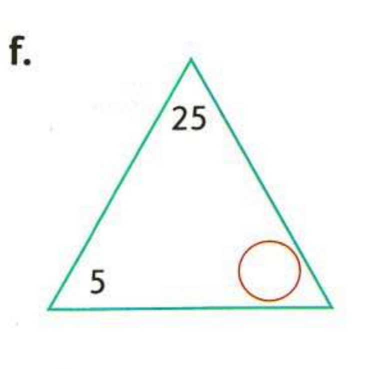
a. 

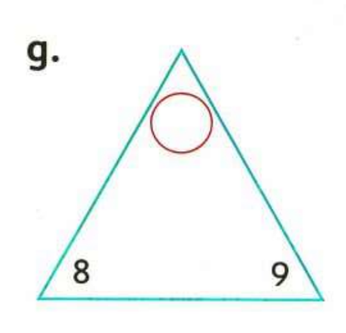
b. 

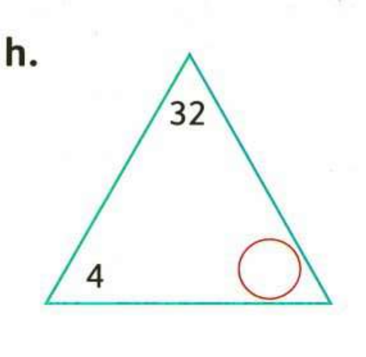
c. 

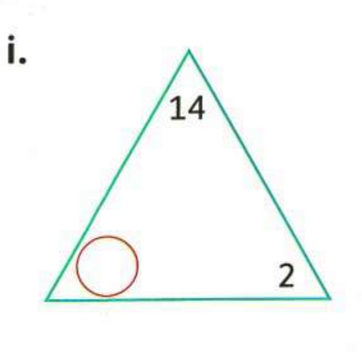
d. 

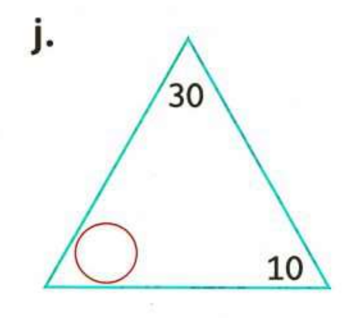
e. 

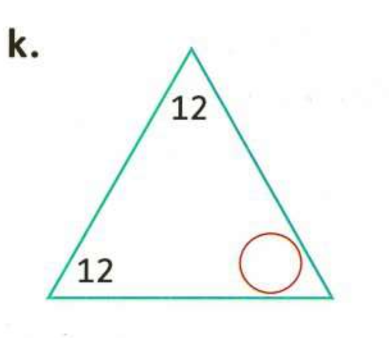
f. 

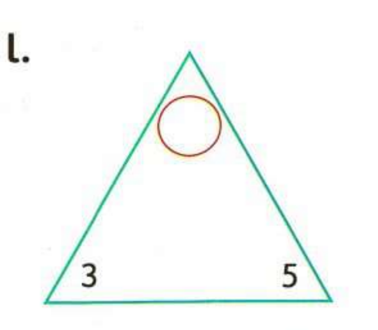
g. 

h. 

i. 

j. 

k. 

l. 

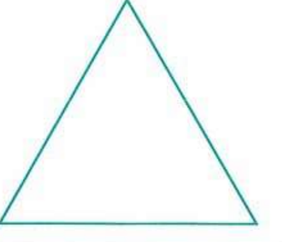
2 Determine the missing number in each equation below. Use fact family triangle to solve. Record the missing number in the empty box.

a.

$7 \times \square = 21$

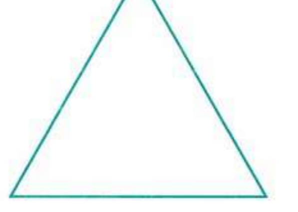
b.

$10 \div \square = 5$



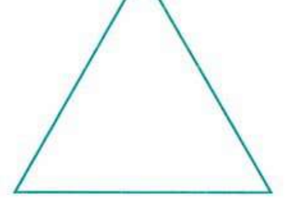
c.

$\square \times 4 = 32$



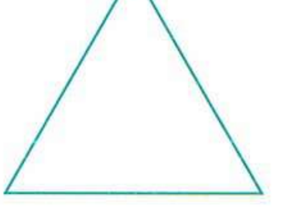
d.

$\square \div 3 = 9$



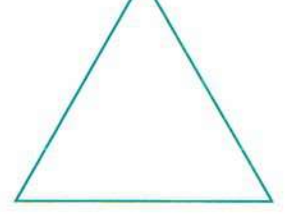
e.

$8 \times \square = 16$



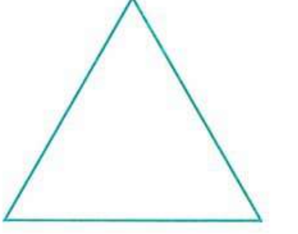
f.

$49 \div \square = 7$

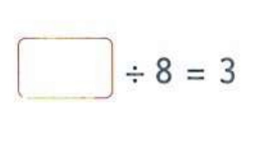


g.

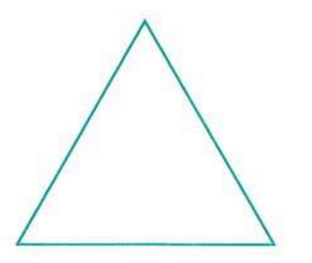
$\square \times 6 = 36$



h.

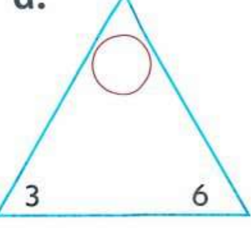


$\square \div 8 = 3$

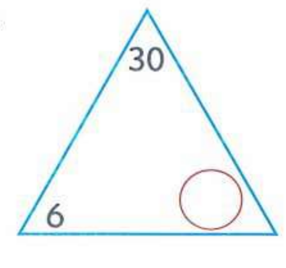


3 Write an equation which represents each triangle below. Find the unknown numbers.

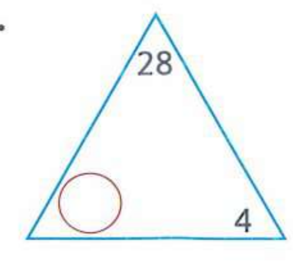
a.



b.



c.



4 Find the missing number.

a. $3 \times$ ______ $= 15$

b. ______ $\times 7 = 21$

c. $10 \div$ ______ $= 2$

d. ______ $\div 3 = 4$

e. ______ $\times 4 = 8$

f. $3 \times$ ______ $= 27$

g. ______ $\div 2 = 5$

h. $14 \div$ ______ $= 7$

i. $8 \times$ ______ $= 16$

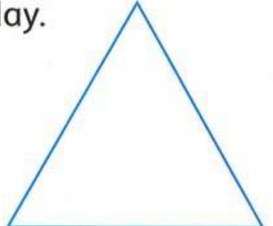
j. $12 \div$ ______ $= 4$

5 Read each story problem below. For each problem, write an equation with an unknown to represent what is happening in the story. Then, solve the story problem. You may use a fact family triangle to help you with your work.

a. There are 9 elephants at the zoo.
Each elephant eats 2 bales of hay in a day.

How many bales of hay does the zookeeper need to feed all 9 elephants for one day ?

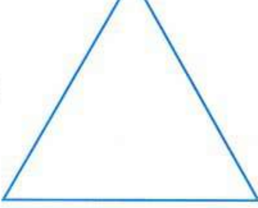
____



b. Adam baked 24 cookies. He gives a bag to 8 of his friends.

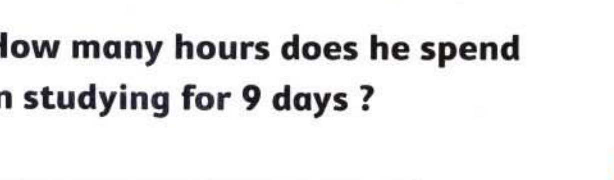
How many cookies are in each bag ?

____



c. Omar studies 4 hours every day.

How many hours does he spend in studying for 9 days ?



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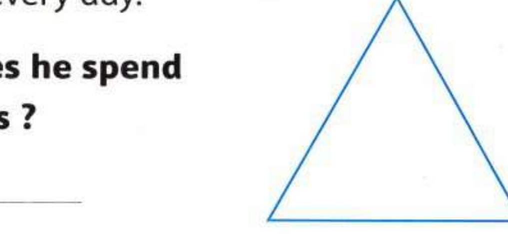
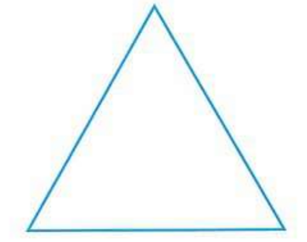


d. The zookeeper has 81 fish.
Each crocodile at the zoo gets
9 fish. If all the crocodiles get fed.
How many crocodiles are there at the zoo ?



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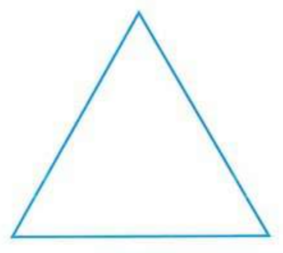
e. Salma has 7 boxes of colors.
Each box contains 6 colors.
How many colors are there in all ?



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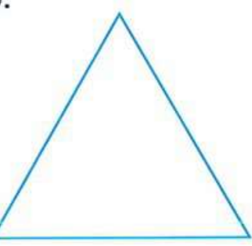
f. Adam and his friends walked to the zoo.
Each ticket costs 8 L.E. If Adam and his friends spend 72 L.E. all together.
How many tickets did they buy ?



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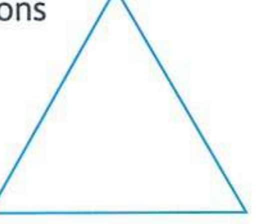
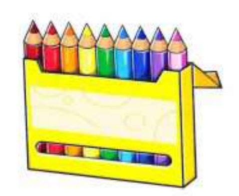
g. I have 20 crayons. I want to put the crayons into boxes. Each box can hold 5 crayons.
How many boxes will I need ?





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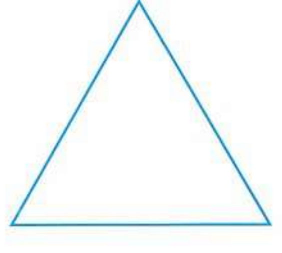
h. At the hippo exhibit in the zoo, Adam and his friends count 16 hippo feet.
If every hippo has 4 feet.
How many hippos are at the zoo ?



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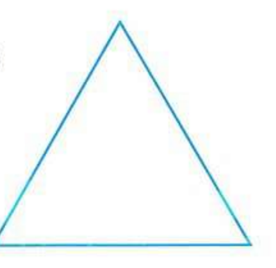
i. The zookeeper is giving a talk at an auditorium about peacocks. Adam and his friends go to listen. The auditorium can hold 48 people. If there are 6 rows.
How many chairs are in each row ?



6 Write a multiplication story problem that could be represented by the equation shown. Solve the problem to show the result.

a. $7 \times 4 = \square$

b. $8 \times 9 = \square$

Math tip

The multiplication story problem may include :

- *Having multiple bags containing an equal number of things.*
- *Determining how much money you pay if you buy some things of the same price.*
- *Determining how many items you need to give some friends the same amount of it.*

7 Write a division story problem that could be represented by the equation shown. Solve the problem to show the result.

a. $20 \div 5 = \square$

b. $24 \div 6 = \square$

Math tip

The division story problem may include :

- *Sharing a large group into smaller equal parts.*
- *Breaking up a number into equal parts.*
- *Asking about the quotient.*

Challenge

8 Emad's class can hold 25 children in rows and columns.
If the number of rows equal the number of columns.
How many desks are in each row ?

____

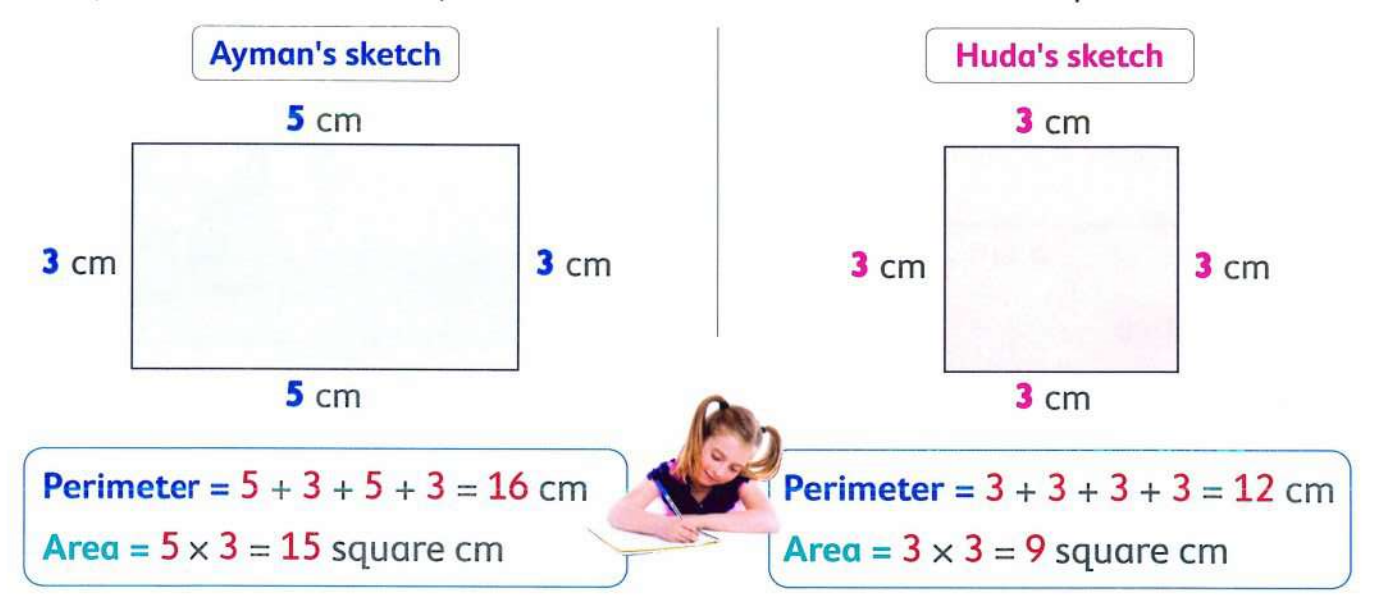
Place a smiley face

Lesson 5

Story problems on the perimeter and the area

Learn 1 Story problems on the perimeter and the area

Ayman and Huda are two friends. Each of them draw a sketch for each favorite shape and calculated the perimeter and the area of the drawn shapes.

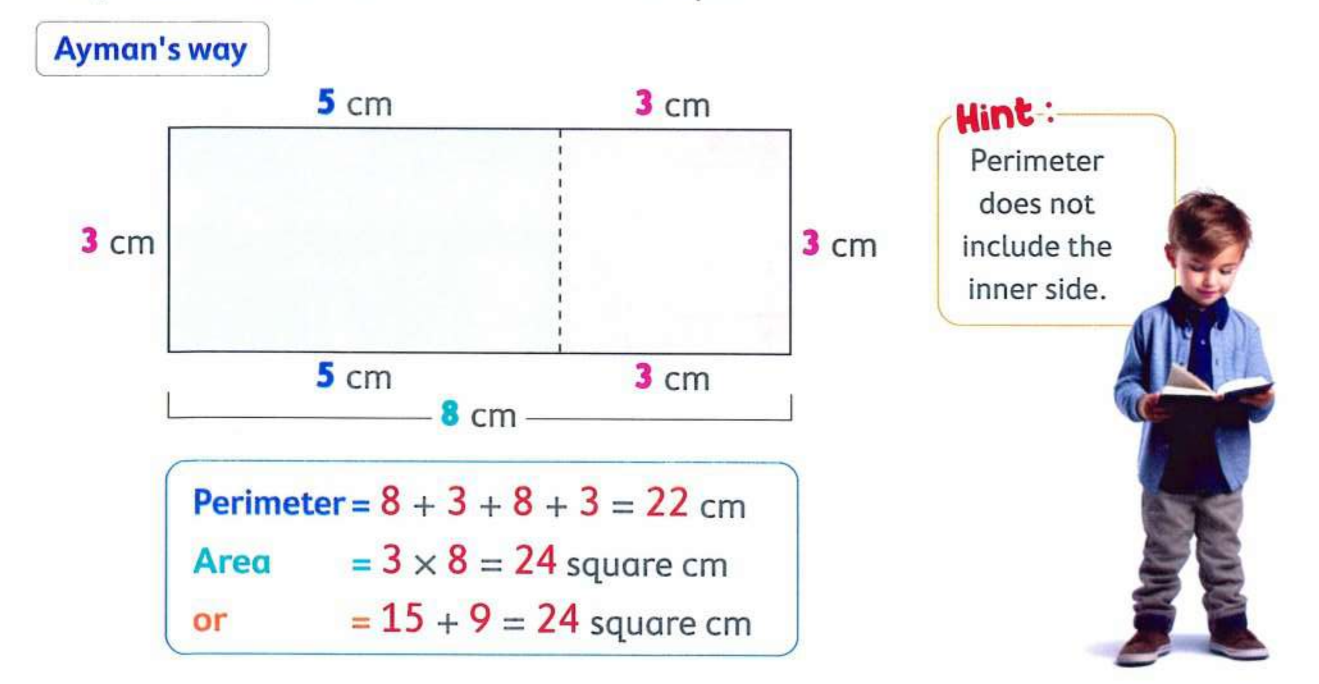


Perimeter = $5 + 3 + 5 + 3 = 16$ cm
Area = $5 \times 3 = 15$ square cm

Perimeter = $3 + 3 + 3 + 3 = 12$ cm
Area = $3 \times 3 = 9$ square cm

Then they laid their shapes side by side to make a new shape and calculate the perimeter and the area of the new shape.

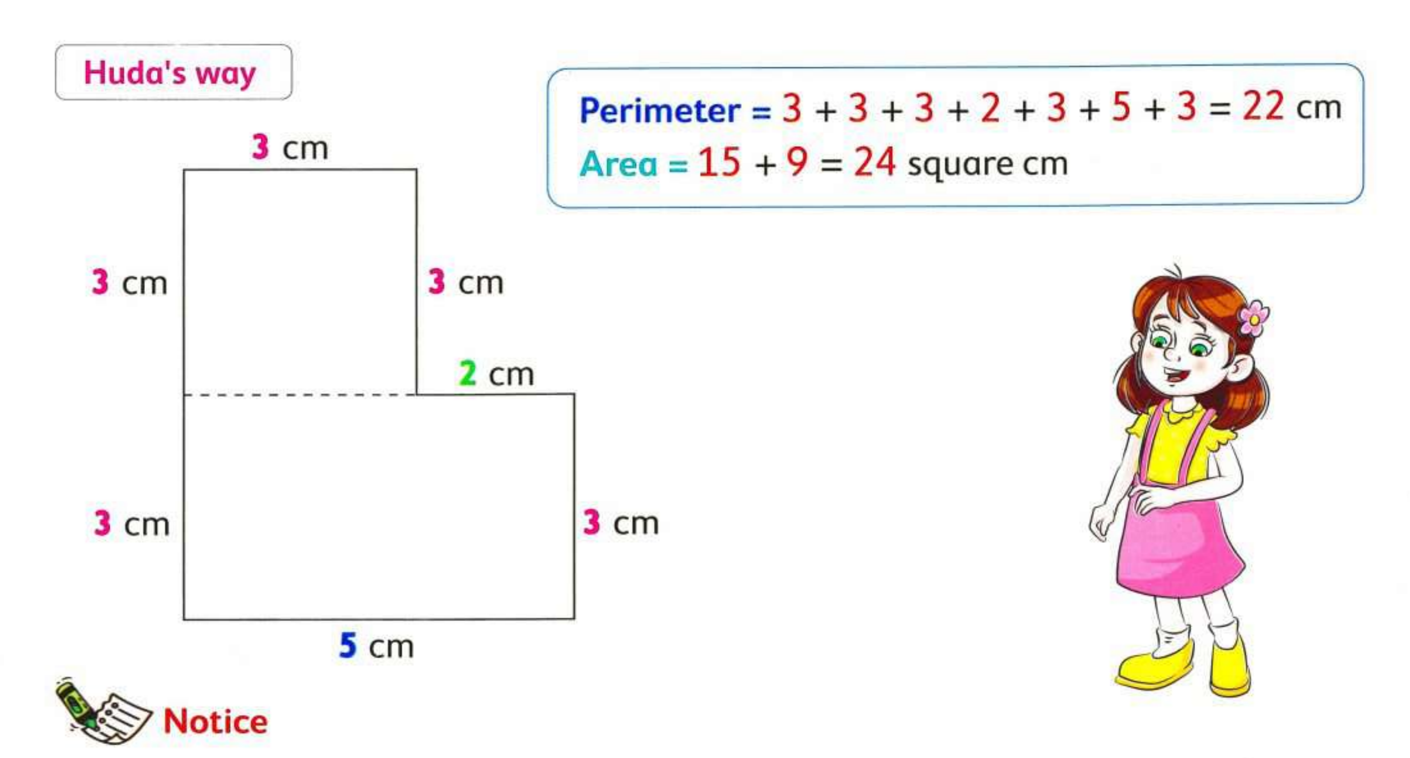
Ayman's way



Perimeter = $8 + 3 + 8 + 3 = 22$ cm
Area = $3 \times 8 = 24$ square cm
or = $15 + 9 = 24$ square cm

Notes for parents

- Help your child lay the shapes side by side with the right way and remind him/her to note that perimeter does not include the inner side.



Notice

When you lay two shapes side by side together, new area equals the sum of the two areas but new perimeter does not equal the sum of the two perimeters.

Check

Find the perimeter and the area of each of the following figures ,then lay the figures side by side and calculate the perimeter and the area of the new shape.

4 cm, 2 cm, 2 cm, 4 cm

Perimeter = ____

Area = ____

2 cm, 2 cm, 2 cm, 2 cm

Perimeter = ____

Area = ____

Work area

Perimeter = ____

Area = ____

Notes for parents

- Let your child tell the other way to put the figures side by side.

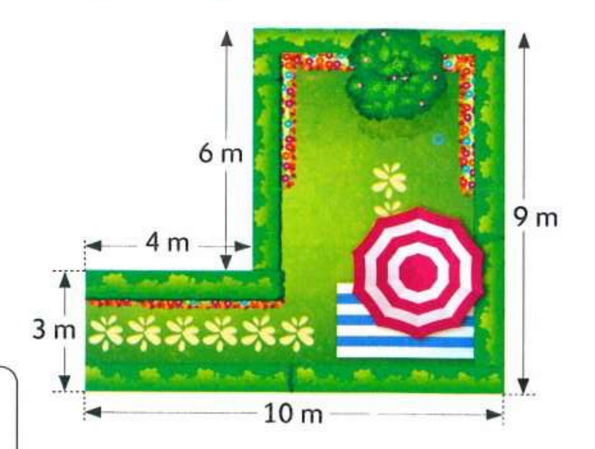
Learn 2 Perimeter and area of complex figures

Andy wants to put a fence around his garden.

The space he will use is shown at the right.

How much fence should he buy ?

What is the area of his garden ?



Find the perimeter.

Add the lengths of the sides.

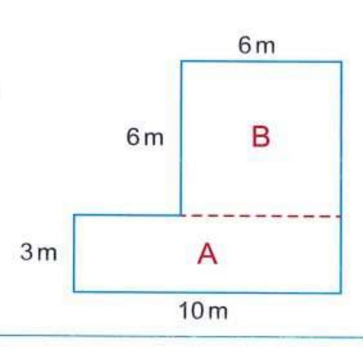
Perimeter = 10 + 3 + 4 + 6 + 6 + 9 = 38 meters

He should buy 38 meters of fence.

Find the area.

There are many ways to calculate the area.

Separate the figure into a rectangle **A** and a square **B**.



Step 2

Calculate to find the area of each figure.

Area of the rectangle A

Area = length × width
= 10 × 3
= 30 square m

Area of the square B

Area = side × side
= 6 × 6
= 36 square m

Step 3

Add both areas to find the area of the whole figure.

30 + 36 = 66 square meters

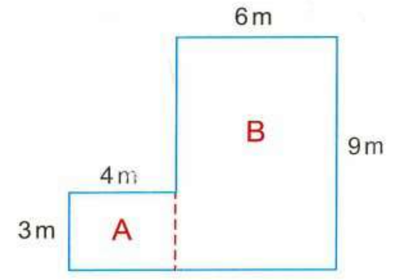
The area of the garden is 66 square meters.

Let your child guess the other way to separate the figure which help to find the area of Andy's garden.

• Ask your child to draw a complex figure and ask him/her to calculate the perimeter and the area of these drawn shapes.

Another way to find area

Separate the figure into
a rectangle **A** and a rectangle **B**.



Step 2

Calculate to find the area of each figure.

Area of the rectangle A

Area = length × width
= 4 × 3
= 12 square m

Area of the rectangle B

Area = length × width
= 9 × 6
= 54 square m

Step 3

Add both areas to find the area of the whole figure.

12 + 54 = 66 square meters.

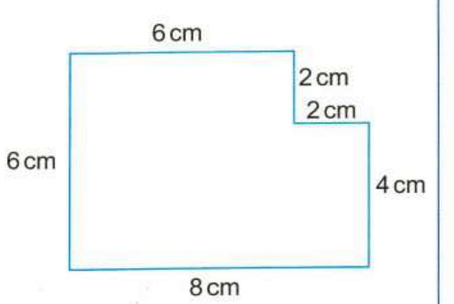
The area of the garden is 66 square meters.

Check

Use your prefered way to find the perimeter and the area of the opposite figure.

Ask Yourself

- How can I divide the figure into squares and rectangles ?
- How should I label the answer ?



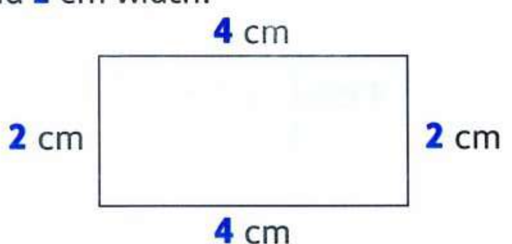
Notes for parents

- Let your child notice that all ways finding the same area.

Learn 3 Equal perimeters

- There are more than one figure that look different but have the same perimeter.
- All the following figures have the same perimeter of 12 cm.

Rectangle with **4** cm length and **2** cm width.

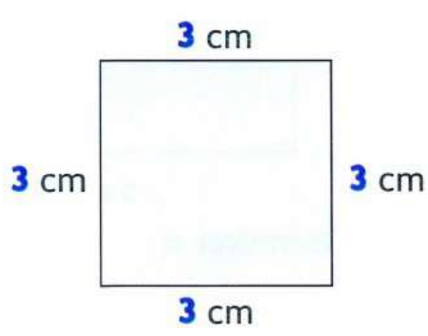


Perimeter = 2 + 4 + 2 + 4 = 12 cm

Rectangle with **5** cm length and **1** cm width.

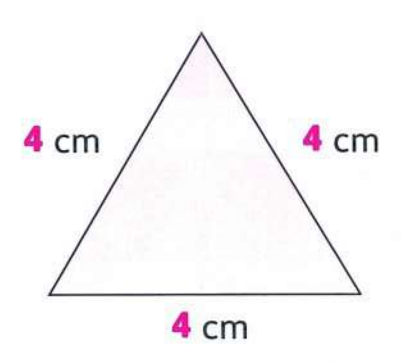
Perimeter = 1 + 5 + 1 + 5 = 12 cm

Square with **3** cm length.



Perimeter = 3 + 3 + 3 + 3 = 12 cm

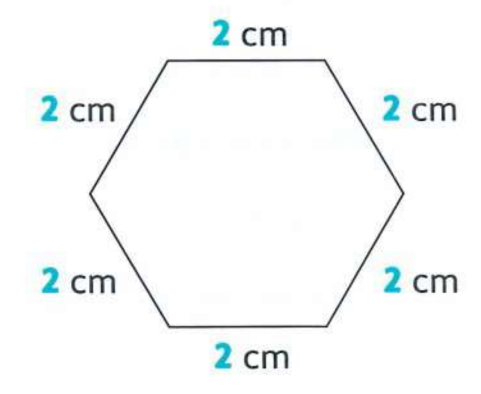
Triangle with **4** cm length.



Perimeter = 4 + 4 + 4 = 12 cm

Hexagon with **2** cm length.

Perimeter = 2 + 2 + 2 + 2 + 2 + 2 = 12 cm



- Ask your child to draw 2 figuers of the same perimeter of 16 cm.
- Remind your child with the names of the polygons he/she studied before like (triangle, quadrilateral, pentagon, hexagon, heptagon, octagon)

Story problems on the perimeter and the area

From the school book

1 Calculate the perimeter and the area of each figure.

a. 3 cm, 3 cm

Perimeter = ____________

Area = ____________

b. 2 cm, 2 cm

Perimeter = ____________

Area = ____________

c. 4 cm, 4 cm

Perimeter = ____________

Area = ____________

d. 4 cm, 2 cm

Perimeter = ____________

Area = ____________

e. 3 cm, 1 cm

Perimeter = ____________

Area = ____________

f. 3 cm, 5 cm

Perimeter = ____________

Area = ____________

2 Complete.

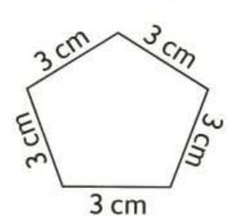
a. The perimeter of square of side length 5 cm is ____________ cm

b. The area of rectangle of length 6 cm and width 4 cm is ____________ square cm

c. The area of square of side length 7 cm is ____________ square cm

d. The perimeter of rectangle of length 10 cm and width 7 cm is ____________ cm

e. The perimeter of the opposite figure is ____________ cm



f. The side length of square whose area is 25 square cm is ____________ cm

3 Choose the correct answer.

a. The area of square of side length 6 cm is ______ square cm
(6 or 12 or 4 or 36)

b. The perimeter of rectangle of length 7 cm and width 3 cm is ______ cm
(10 or 20 or 21 or 40)

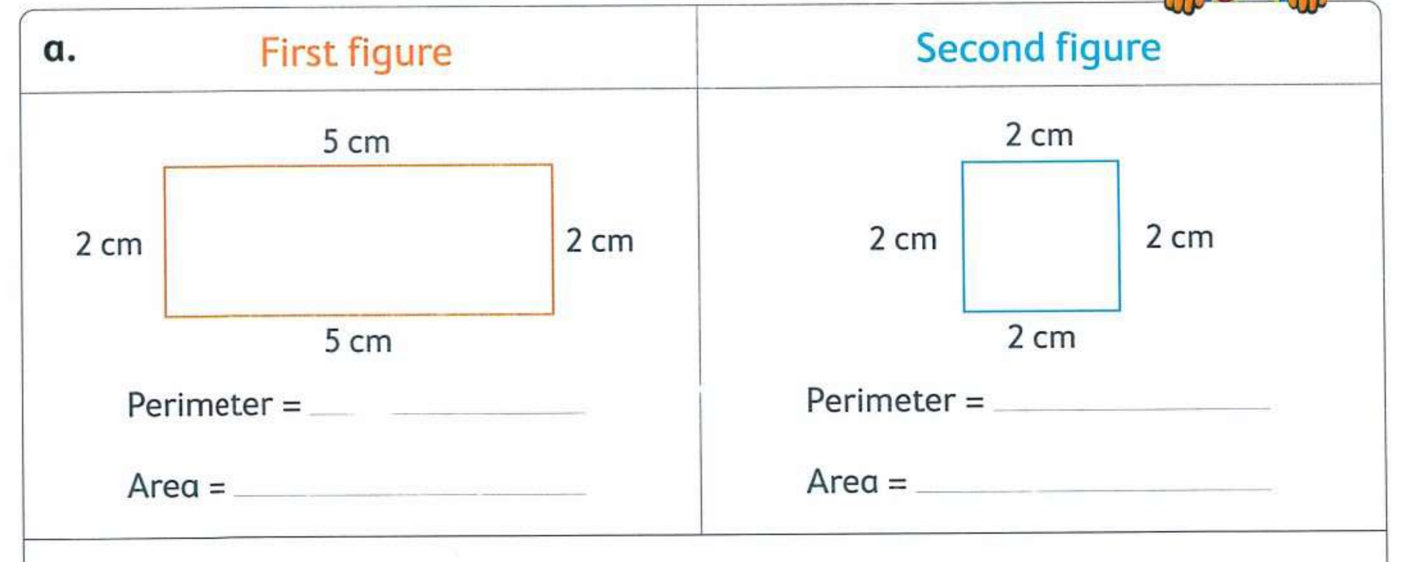
c. The area of rectangle of length 5 cm and width 2 cm is ______ square cm
(7 or 14 or 10 or 20)

d. The perimeter of square of side length 9 cm is ______ cm
(18 or 81 or 63 or 36)

e. The side length of square whose perimeter is 12 cm is ______ cm
(6 or 5 or 4 or 3)

f. The side length of square whose area is 16 square cm is ______ cm
(3 or 4 or 5 or 6)

4 Calculate the perimeter and the area of each figure, then lay the figures side by side and find the perimeter and the area of the new shape.

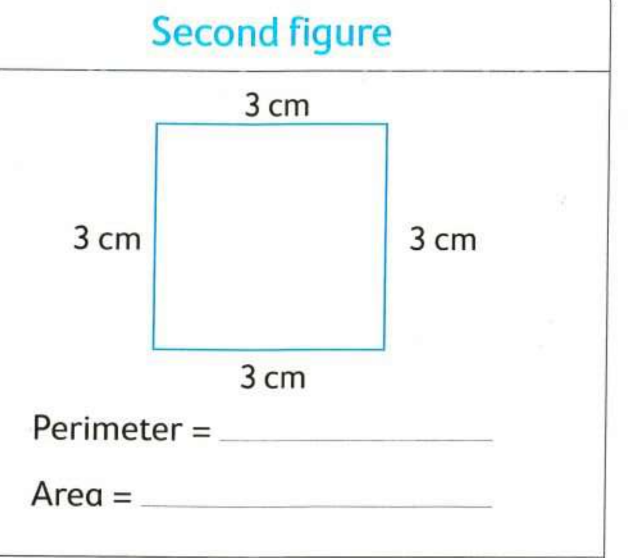


The two figures side by side

Perimeter = ______

Area = ______

b.

First figure	Second figure
4 cm; 3 cm; 3 cm; 4 cm Perimeter = ________ Area = ________	 Perimeter = ________ Area = ________

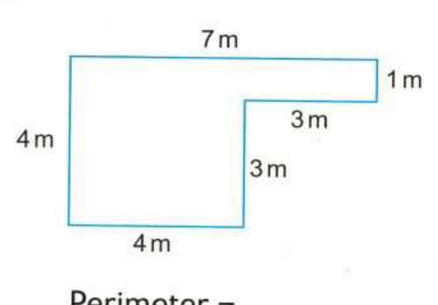
The two figures side by side

Perimeter = ________

Area = ________

5 **Find the perimeter and area of each figure.**

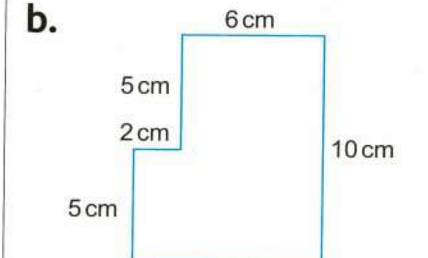
a.



Perimeter = ________

Area = ________

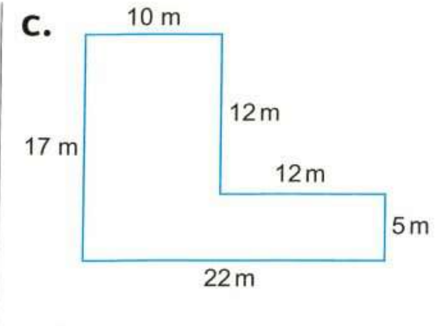
b.



Perimeter = ________

Area = ________

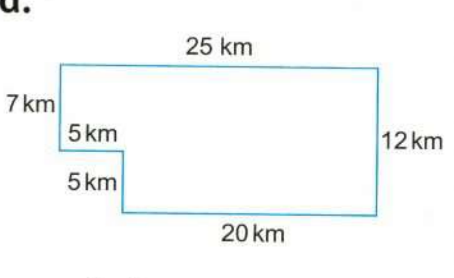
c.



Perimeter = ________

Area = ________

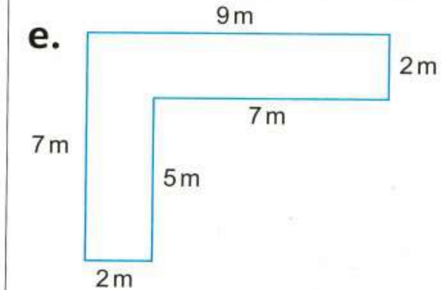
d.



Perimeter = ________

Area = ________

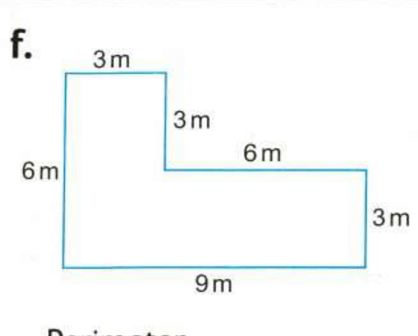
e.



Perimeter = ________

Area = ________

f.



Perimeter = ________

Area = ________

6 **Sketch each shape and label it. Calculate the perimeter and the area of each shape.**

a. Draw a rectangle which is 2 cm wide and 3 cm long.

Perimeter = ____________

Area = ____________

b. Draw a square that has side length of 4 cm.

Perimeter = ____________

Area = ____________

7 **Sketch each shape and label it, then complete.**

a. Draw a triangle with a perimeter of 14 cm.

The side lengths are ______

b. Draw a square with a perimeter of 12 cm.

The side length is ______

c. Draw an octagon with a perimeter of 16 cm.

The side lengths are ______

d. Draw a hexagon with a perimeter of 18 cm.

The side lengths are ______

8 **Omar measured his garden, and it is 3 meters wide and 4 meters long. Draw a sketch of Omar's garden and label the dimensions. Find the area of Omar's garden and record your findings below. Then, find the perimeter of Omar's garden and record your findings below. Remember to label your answers.**

What is the area of Omar's garden ?

What is the perimeter of Omar's garden ?

What if Omar's garden had the same perimeter but was a triangle ? draw a sketch of that garden and label the sides.

9 **Gehad drew a square that has side lengths of 8 cm Sketch Gehad's square.**

What is the perimeter of the square ?

What is the area of the square ?

If Mona drew an octagon that had the same perimeter, what would it look like ?

10 **Ashraf has a rectangular rug in his house that measures 8 meters by 2 meters. Sketch Ashraf's rug.**

What is the perimeter of the rug ?

What is the area of the rug ?

Noran has a rug in her house with the same perimeter but is not a rectangle. What could her rug look like ?

11 **Jana draws a rectangle with a length of 7 cm and a width of 4 cm, and Mona draws a rectangle with a length of 5 cm and a width of 4 cm**
Sketch Jana and Mona's rectangles.

What is the perimeter of Jana's rectangle ?
What is the perimeter of Mona's rectangle ?

What would be the perimeter if they laid their rectangle side by side to make one long rectangle ? What is the area of the new long rectangle ?

12 **Moustafa drew three rectangles next to each other. Each rectangle was 5 cm long and 2 cm wide. Sketch the three rectangles.**

What is the perimeter of one rectangle ?

What is the area of one rectangle ?
What is the perimeter of all three rectangles together ?
What is the area of all three rectangles together ?

13 **Mohab drew a hexagon with a perimeter of 24 cm**
Sketch Mohab's hexagon below.

Draw one quadrilateral and one other shape that could have the same perimeter.
Label the sides.

Lesson 6

The perimeter for a given area and a side length

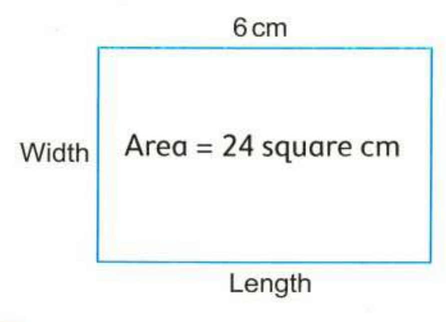
Learn

How to find the perimeter of a rectangle knowing its area and the length of one dimension.

- Area of a rectangle = length × width
- Perimeter of a rectangle = 2 × (length + width)

Example

- **Find the perimeter of the following rectangle.**

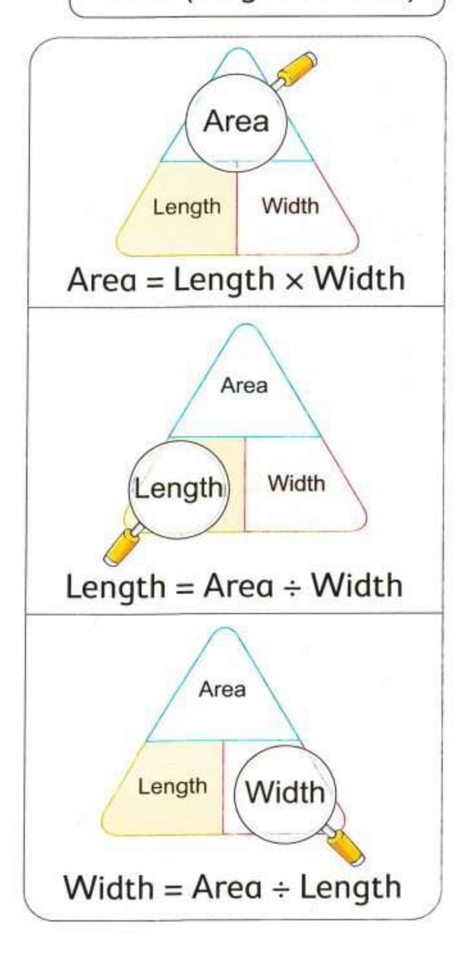


Answer

- You need finding the rectangle width to find its perimeter.

Width = Area ÷ Length
= 24 ÷ 6 = 4 cm

The perimeter = 2 × (length + width)
= 2 × (6 + 4) = 2 × 10
= 20 cm



Check

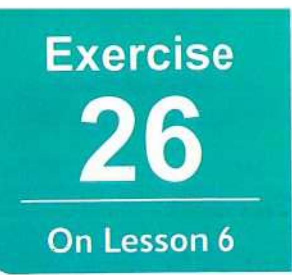
A rectangle of area 20 square cm, and its length is 5 cm.
What is its perimeter ? (Think : Width = Area ÷ Length)

____

____

Notes for parents

- Ask your child to use equations to help him/her solve problems.



The perimeter for a given area and a side length

From the school book

1 For each problem. Find the perimeter.

Figure	Answer
a. 2 cm; Area = 10 square cm	
b. Area = 14 square cm; 7 cm	
c. Area = 15 square m; 3 m	
d. Area = 24 square m; 8 m	
e. Area = 32 square m; 4 m	

2 Wagdy drew the following rectangle.

What is the perimeter of Wagdy's rectangle ?

6 cm

Area = 30 square cm

Sketch another rectangle that has the same area.

what is the perimeter of your new rectangle ?

Draw

3 Perry drew the opposite rectangle.

Calculate the perimeter of Perry's rectangle.

Area = 24 square cm

6 cm

Sketch another rectangle that has the same area and calculate the perimeter of the new rectangle.

Draw

4 Ali sketch a rectangular painting with an area of 28 square cm

The width of his painting is 4 cm

Sketch Ali's painting.

Find the length of his painting, then calculate the perimeter.

Ali's sketch

5 Jaida sketched a rectangular painting with an area of 56 square cm
The length of her painting is 8 cm.
Sketch Jaida's painting.
Find the width of the painting,
then calculate the perimeter.

____
____
____

Jaida's sketch

6 Salma drew four identical squares. The area of one of the squares is 25 square cm and the length of one side is 5 cm

What is the perimeter of the four squares ?
What would be the total area of the four squares ?

____
____

Area = 25 square cm	

5 cm

7 Taha made a tiny rectangular painting with an area of 72 square cm
The width of his painting is 9 cm
Sketch Taha's painting.
What is the length of his painting ?
What is the perimeter of his painting ?

____
____

Taha's sketch

Challenge

8 **Read the following riddle. Draw at least two shapes that fit the riddle and then record the perimeter.**

The Riddle :

I can be a rectangle or a square. I have an area of 36 square units.
My length is greater than 2 units. **What do I look like ?**

Place a smiley face

Shape one

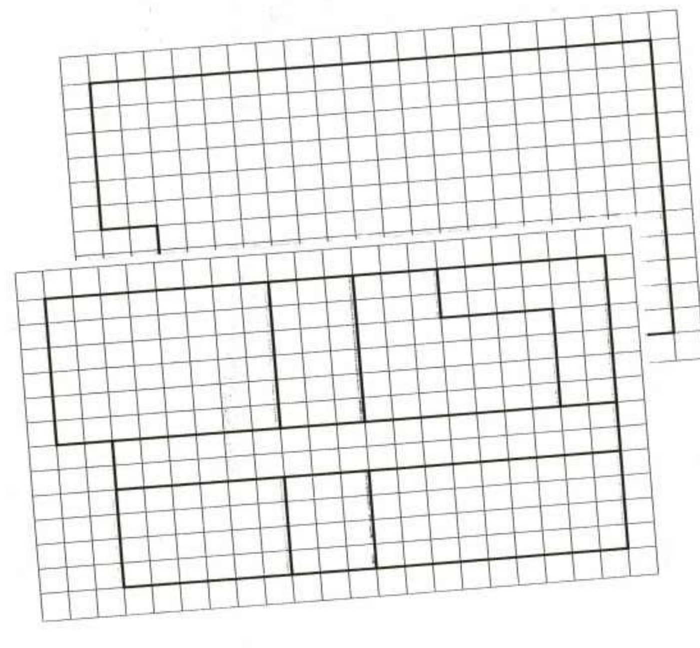
Perimeter = ______________

Shape two

Perimeter = ______________

Lesson 7

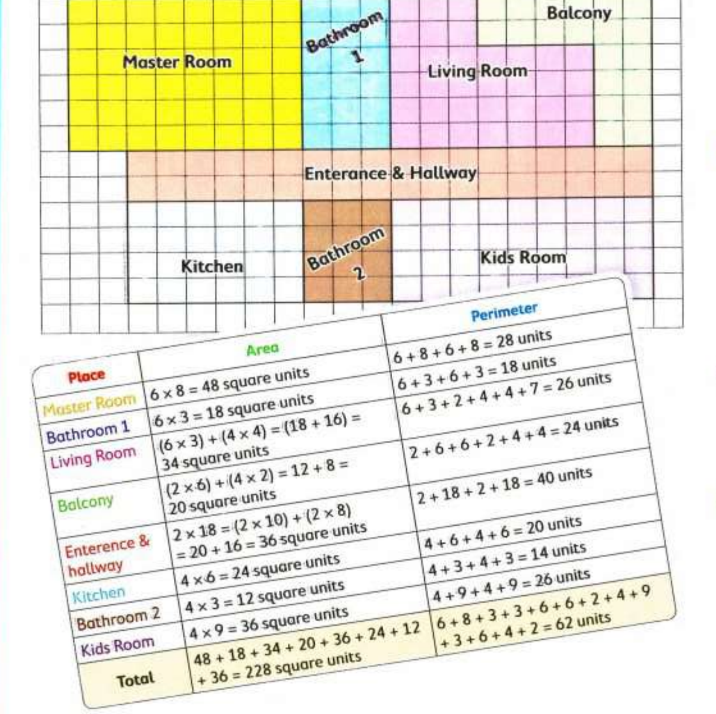
Applications on the perimeter and the area



- Outline your dream house by drawing the outside walls. Your dream house should be a compound figure with all right corners.

Think about the needed rooms in your house and how big or small should be each room.

- Partition your dream house into rooms. Each room must be a rectangle or a square.



Place	Area	Perimeter
Master Room	$6 \times 8 = 48$ square units	$6 + 8 + 6 + 8 = 28$ units
Bathroom 1	$6 \times 3 = 18$ square units	$6 + 3 + 6 + 3 = 18$ units
Living Room	$(6 \times 3) + (4 \times 4) = (18 + 16) =$ 34 square units	$6 + 3 + 2 + 4 + 4 + 7 = 26$ units
Balcony	$(2 \times 6) + (4 \times 2) = 12 + 8 =$ 20 square units	$2 + 6 + 6 + 2 + 4 + 4 = 24$ units
Enterence & hallway	$2 \times 18 = (2 \times 10) + (2 \times 8)$ $= 20 + 16 = 36$ square units	$2 + 18 + 2 + 18 = 40$ units
Kitchen	$4 \times 6 = 24$ square units	$4 + 6 + 4 + 6 = 20$ units
Bathroom 2	$4 \times 3 = 12$ square units	$4 + 3 + 4 + 3 = 14$ units
Kids Room	$4 \times 9 = 36$ square units	$4 + 9 + 4 + 9 = 26$ units
Total	$48 + 18 + 34 + 20 + 36 + 24 + 12 + 36 = 228$ square units	$6 + 8 + 3 + 3 + 6 + 6 + 2 + 4 + 9 + 3 + 6 + 4 + 2 = 62$ units

- Label and color each room.
- Find and record the perimeter and area of each room.
- Add the area of all of your rooms to find the total area of your dream house.

Notes for parents

- Train your child to calculate the area of a complex shape drawn on a grid.

Example Sylvia drew her dream house design.

Sylvia's dream House

Sylvia recorded the places she draw and calculate the area and the perimeter.

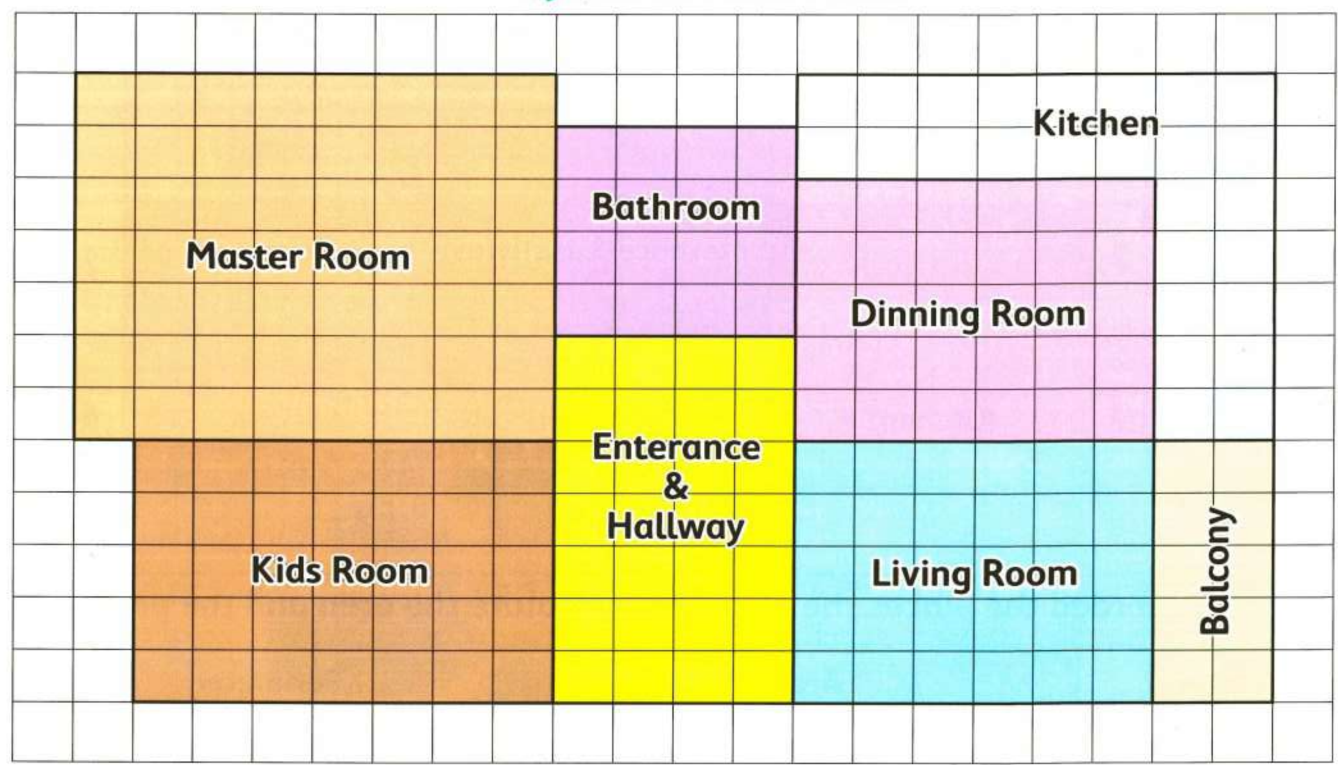
Place	Area	Perimeter
Master Room	$6 \times 8 = 48$ square units	$6 + 8 + 6 + 8 = 28$ units
Bathroom 1	$6 \times 3 = 18$ square units	$6 + 3 + 6 + 3 = 18$ units
Living Room	$(6 \times 3) + (4 \times 4) = 18 + 16$ $= 34$ square units	$6 + 3 + 2 + 4 + 4 + 7 = 26$ units
Balcony	$(2 \times 6) + (4 \times 2) = 12 + 8$ $= 20$ square units	$2 + 6 + 6 + 2 + 4 + 4 = 24$ units
Enterence & Hallway	$2 \times 18 = (2 \times 10) + (2 \times 8)$ $= 20 + 16 = 36$ square units	$2 + 18 + 2 + 18 = 40$ units
Kitchen	$4 \times 6 = 24$ square units	$4 + 6 + 4 + 6 = 20$ units
Bathroom 2	$4 \times 3 = 12$ square units	$4 + 3 + 4 + 3 = 14$ units
Kids Room	$4 \times 9 = 36$ square units	$4 + 9 + 4 + 9 = 26$ units
Total	$48 + 18 + 34 + 20 + 36 + 24 + 12$ $+ 36 = 228$ square units	$6 + 8 + 3 + 3 + 6 + 6 + 2 + 4 + 9$ $+ 3 + 6 + 4 + 2 + 2 = 64$ units

• Let your child check the answers of the areas and perimeters in Sylvia's dream house.

Applications on the perimeter and the area

From the school book

1 Ayman drew his dream house design. Label the figure with number of units.

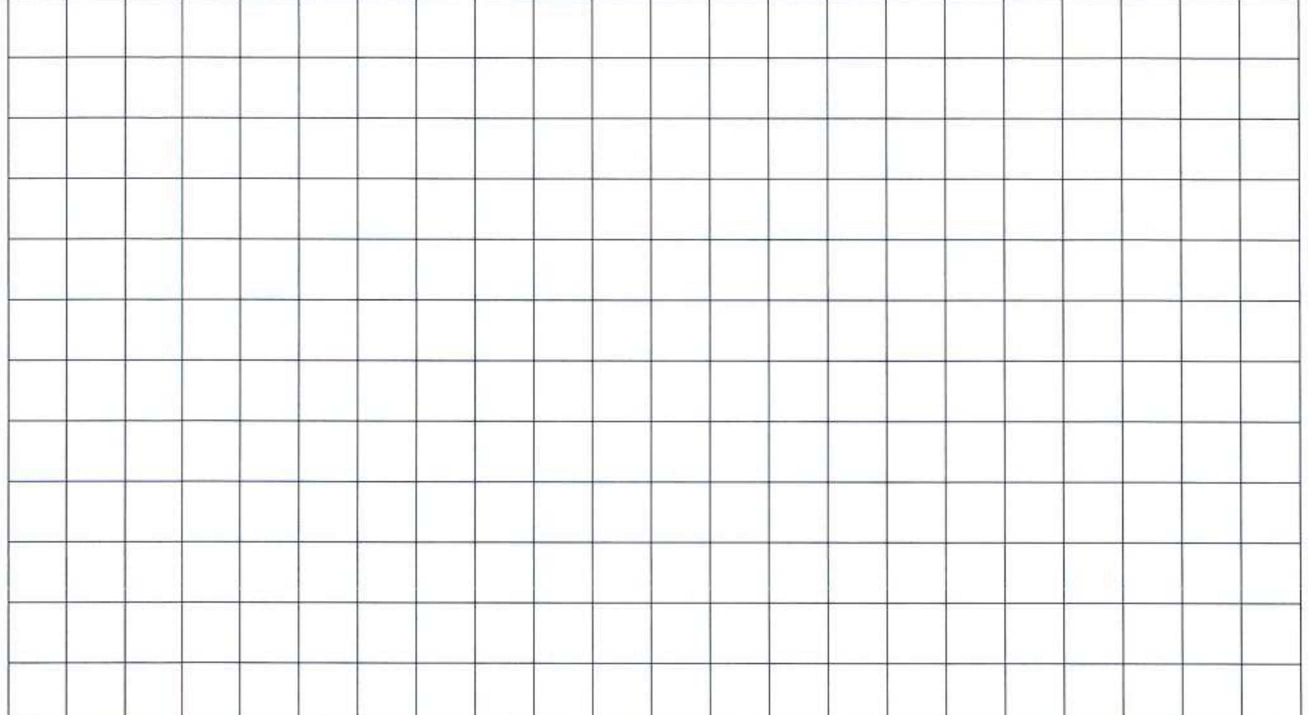


Record the places he drew and calculate the area and the perimeter.

Place	Area	Perimeter
Total		

...............'s DREAM HOUSE

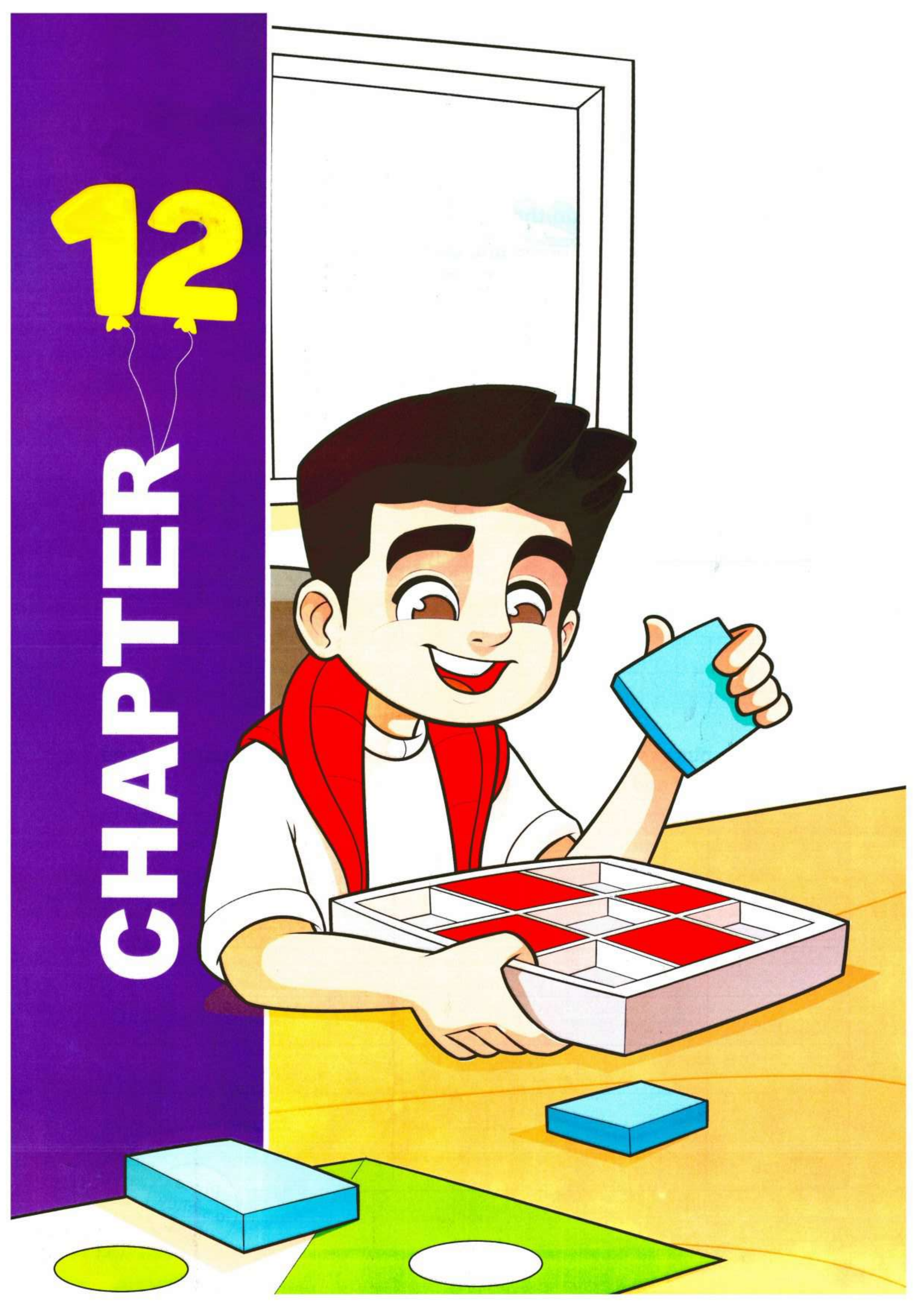
2 Draw your dream house on the grid below.
Label each room with its name and dimensions.



Record the places you drew and calculate the area, the perimeter and the total perimeter and total area of your house.

Place	Area	Perimeter
Total		

Place a smiley face


12
CHAPTER

Outcomes of chapter twelve :

At the end of chapter twelve, your child will be able to:

▶ **Lesson 1 :**

Creating halves with non-routine ways

- Color shapes to generate unconventional halves.
- Apply understanding of area and fractions to solve story problems.

▶ **Lesson 2 :**

Ordering fractions using the number line

- Order fractions on a number line.
- Generate questions or problems to review Primary 3 math.

▶ **Lesson 3 :**

Applications on numbers

- Solve place value problems.
- Generate questions or problems to review Primary 3 math.

▶ **Lesson 4 :**

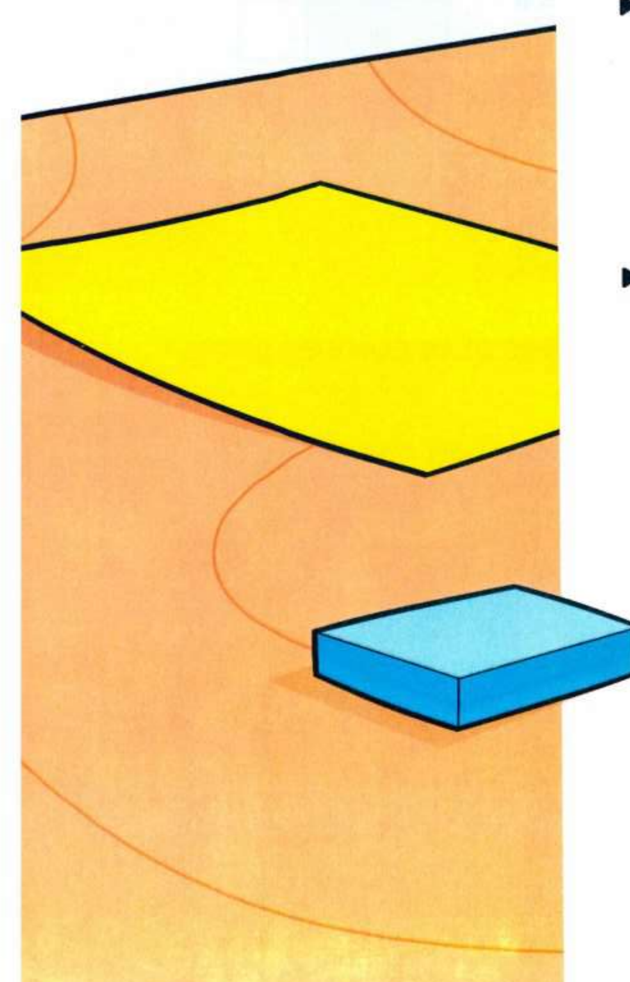
Elapsed time

- Solve Elapsed time problems.
- Generate questions or problems to review Primary 3 math.

▶ **Lesson 5 :**

Applications on data representations

- Collect and record data in a table.
- Use collected data to make a line plot.
- Use collected data to make a bar graph.
- Analyze graphs to answer questions about the data.
- Compare the effectiveness of line plots and bar graphs to display data.
- Generate questions or problems to review Primary 3 math.

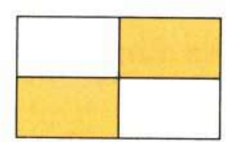


Lesson 1

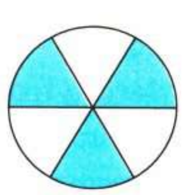
Creating halves with non-routine ways

Learn 1 Creating halves with non-routine ways

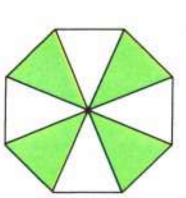
- **The following figures show non-routine halves that have one-half colored and one-half uncolored.**



All parts = 4
Colored = 2
Uncolored = 2

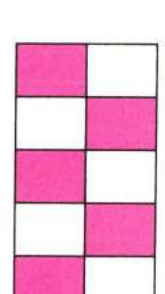


All parts = 6
Colored = 3
Uncolored = 3

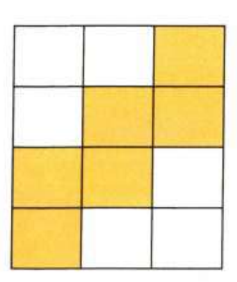


All parts = 8
Colored = 4
Uncolored = 4

All parts = 10
Colored = 5
Uncolored = 5



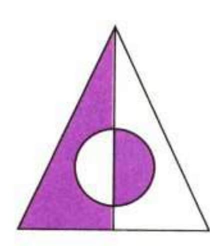
All parts = 12
Colored = 6
Uncolored = 6

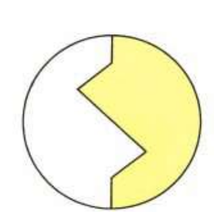


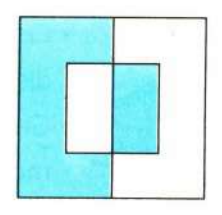
The fraction which represents all the above figures = $\frac{1}{2}$

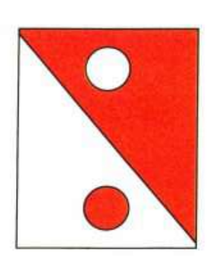
Because The number of colored parts = the number of uncolored parts

- **Here are some figures show non-routine halves you can check visually :**







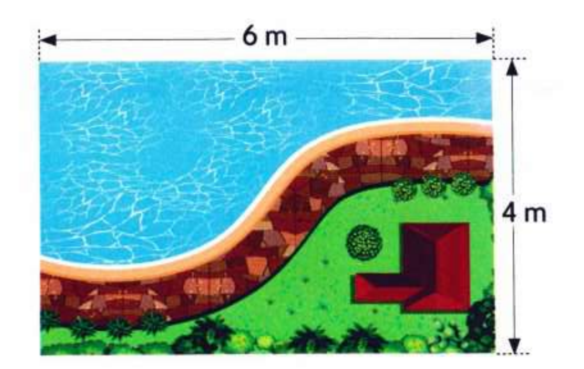


Notes for parents

- Draw a grid of 5 by 6 and ask your child to show non-routine half on it.

Learn 2 How to find half of rectangle's area

Andy's garden is 6 meters long and 4 meters wide. If Andy needs to put a pool in the half of his garden, what is the area of the pool ?



The area of the pool is half the area of the garden.

First way

Find the area of the garden, then divide it by 2 to find the half of it.

Area of garden
$= 6 \times 4$
$= 24$ square meters

Area of half of garden
$= 24 \div 2$
$= 12$ square meters

Second way

Divide the length by 2 to get two small rectangles and find the area of one rectangle of them.

$6 \div 2 = 3$

3 m 3 m
4 m 4 m

Area of half of garden
$= 3 \times 4 = 12$ square meters

Third way

Divide the width by 2 to get two small rectangles and find the area of one rectangle of them.

$4 \div 2 = 2$

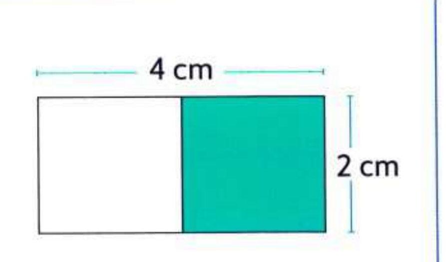
6 m
2 m
2 m

Area of half of garden
$= 6 \times 2 = 12$ square meters

So, the area of the pool is 12 square meters.

Check

Calculate the half of area of the opposite rectangle.



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• Let your child choose his/her prefered way to find the half of area in this page.

Exercise

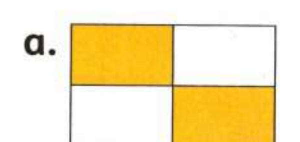
28

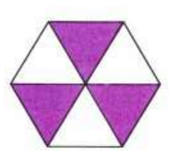
On Lesson 1

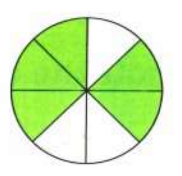
Creating halves with non-routine ways

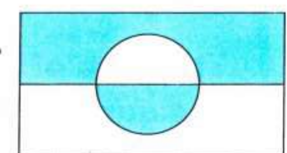
From the school book

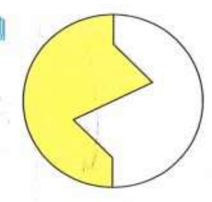
1 **Circle the shapes below that show one-half colored.**

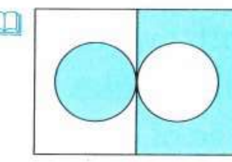
a. 

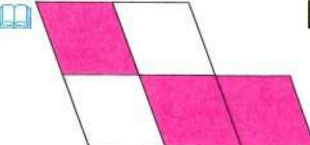
b. 

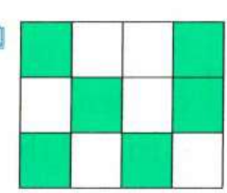
c. 

d. 

e. 

f. 

g. 

h. 

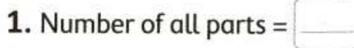
2 **Complete the following and write the fraction which represents the colored figure.**

a.

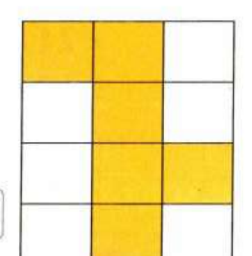
1. Number of all parts = ☐
2. Number of colored parts = ☐
3. Number of uncolored parts = ☐

4. The fraction which represents the colored figure = ☐

b.



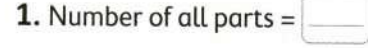
1. Number of all parts = ☐
2. Number of colored parts = ☐
3. Number of uncolored parts = ☐



4. The fraction which represents the colored figure = ☐

c.

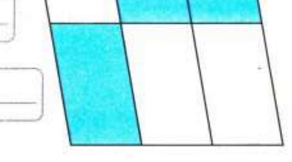
1. Number of all parts = ☐
2. Number of colored parts = ☐
3. Number of uncolored parts = ☐



4. The fraction which represents the colored figure = ☐

d.

1. Number of all parts = ☐
2. Number of colored parts = ☐
3. Number of uncolored parts = ☐



4. The fraction which represents the colored figure = ☐

3 Find the shapes that do not represent a half in each row. Circle it.

a.

b.

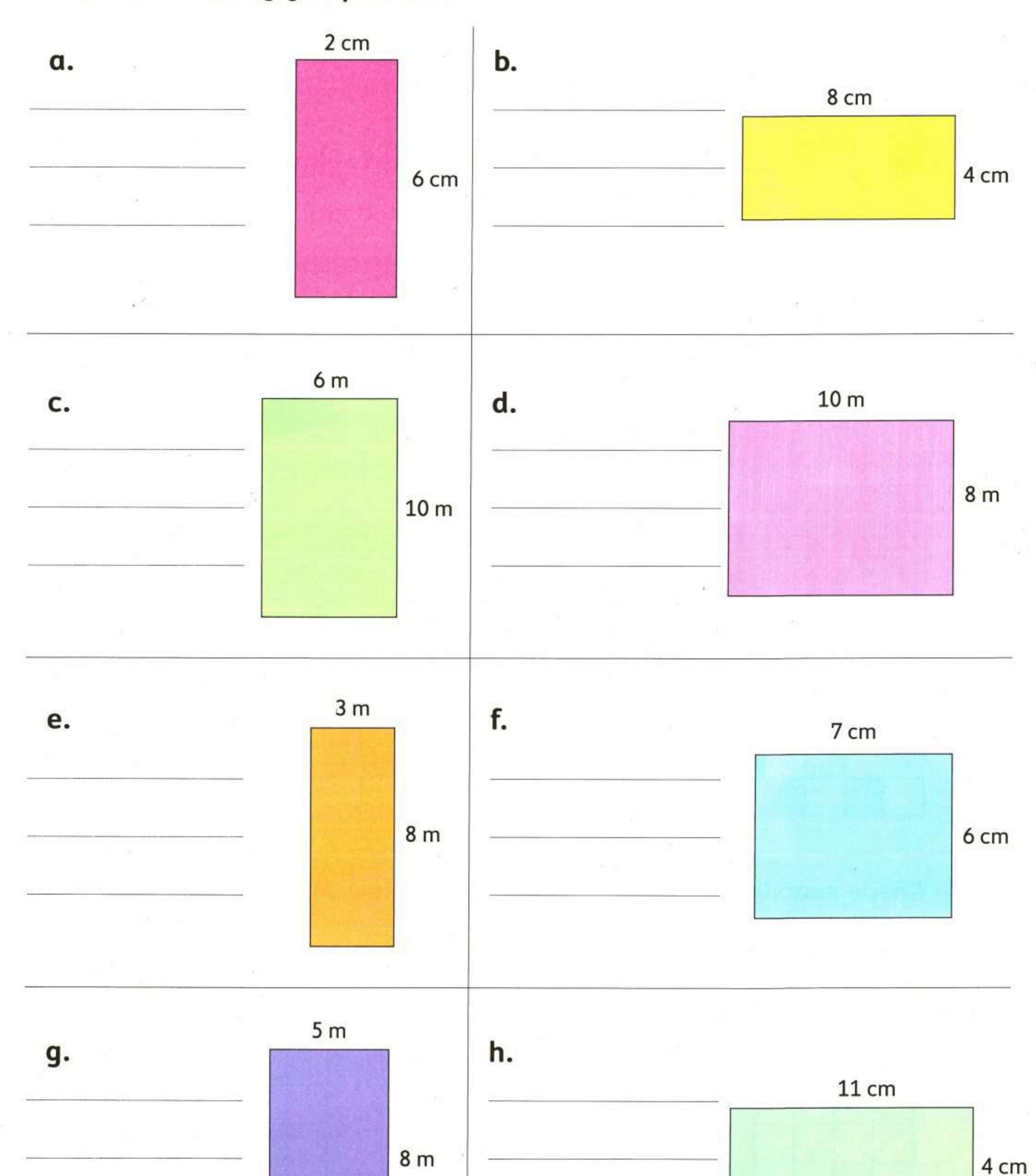
c.

d.

e.

4 Shade exactly one-half of each square below. Make sure your squares look different from each other.

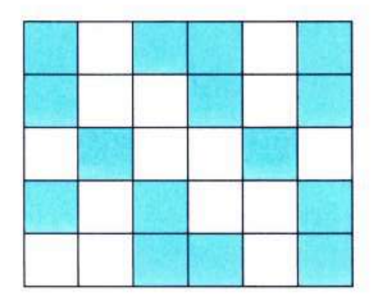
5 Find the half of area of each of the following rectangles. Choose the way you prefered.



6 Amira shades the rectangle as shown below and says one-half of the big rectangle is shaded.

Do you agree ? Why or why not ?

Explain your thinking.



____

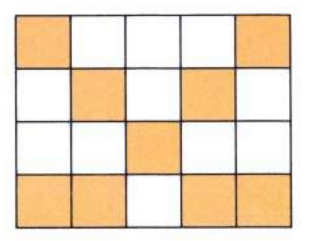
____

____

7 Gamal shades the rectangle as shown below and says one-half of the big rectangle is shaded.

Do you agree ? Why or why not ?

Explain your thinking.



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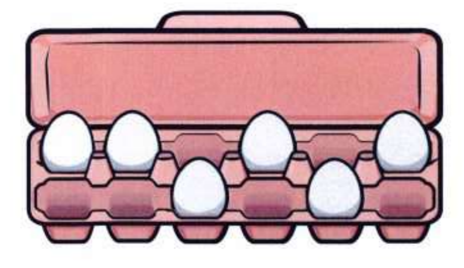
8 Nagi and his sister are making eggs. Nagi says there is a half carton left.

Do you agree ?

Explain your thinking.



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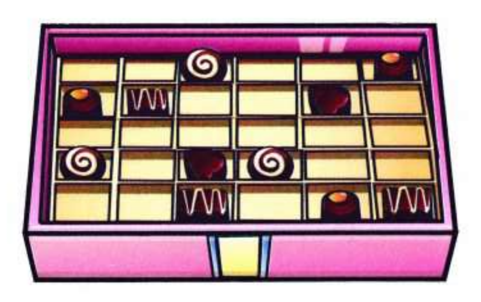
9 Yassin and his brother are orgnizing chocolates. Yassin says there is a half carton left.

Do you agree ? Why or why not ?

Explain your thinking.



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10 **Choose the correct answer.**

a. A rectangle of area 24 square cm, then half the area of that rectangle = ________ square cm (10 or 12 or 6)

b. A rectangle of length 8 cm and width 6 cm, then $\frac{1}{2}$ of area of that rectangle = ________ square cm (24 or 36 or 48)

c. Half the area of a rectangle = half of (________ × length) (length or width or perimeter)

d. If half of the area of a rectangle is 40 square cm, then its whole area is ________ square cm (20 or 40 or 80)

---

11 Rami bought a piece of garden in the shape of rectangle. The garden's dimensions are 8 meters by 10 meters. He wants to plant apple trees in the $\frac{1}{2}$ of the garden. **What is the area of $\frac{1}{2}$ of his garden ?**

---

12 Doha creates a fenced garden in a field. The garden is a rectangle measuring 6 meters by 8 meters. She wants to grow fruit in $\frac{1}{2}$ of the garden.

What is the area of $\frac{1}{2}$ of her garden ?

---

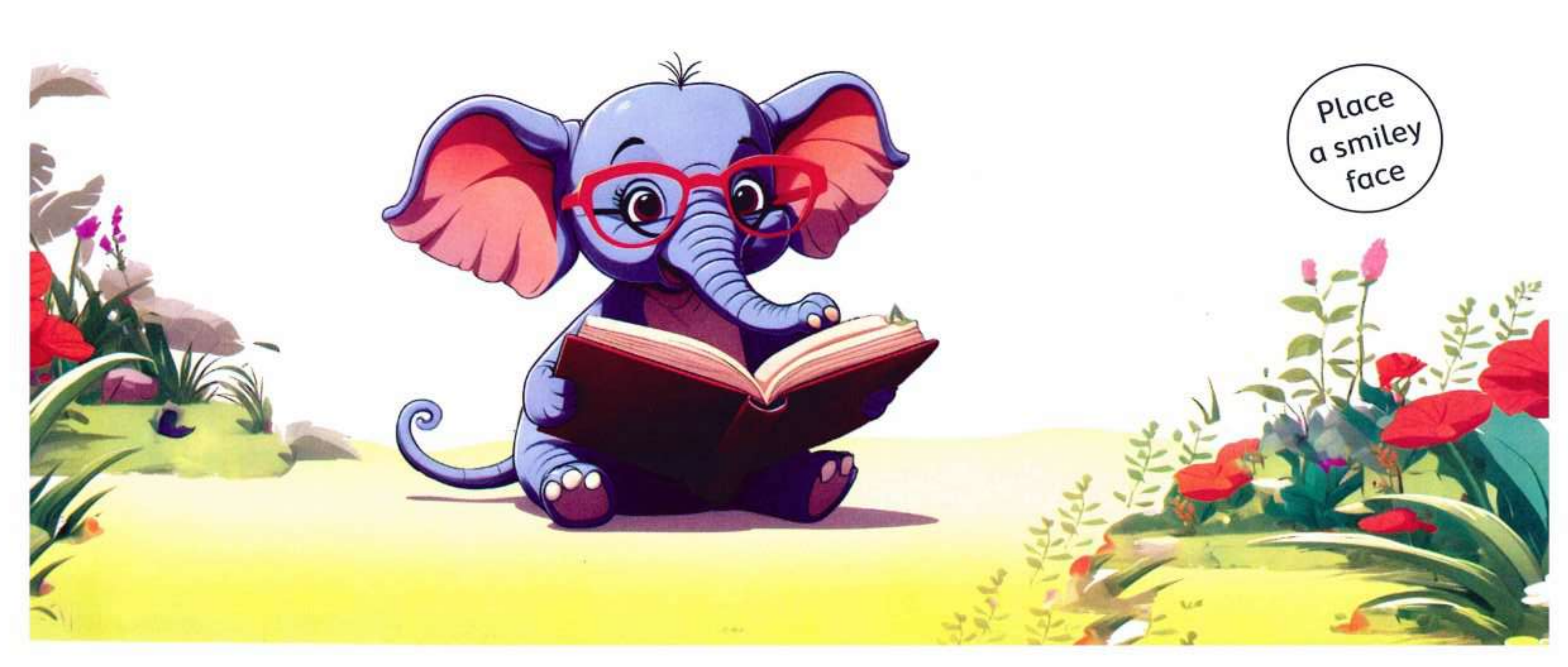
13 Jana needs to paint a wall equally with two different colors. The wall is 8 meters by 4 meters. **How much of the wall should she paint with one color ?**

14 Ola is wrapping presents. She needs 32 square units to wrap a present.
How many presents can she wrap if her paper is 8 units long by 6 units wide ?

15 Marwan is wrapping presents. He needs 15 square units to wrap one present.
How many presents can he wrap if his paper is 6 units long by 5 units wide ?

Challenge

16 If half of the area of a rectangle is 20 square cm, and its length is 8 cm
, then find its width.



Lesson 2

Ordering fractions using the number line

Learn

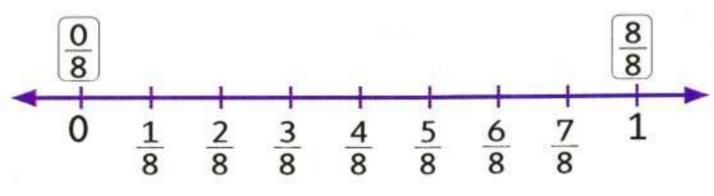
First

How can you place proper fractions with common denominators on the number line ?

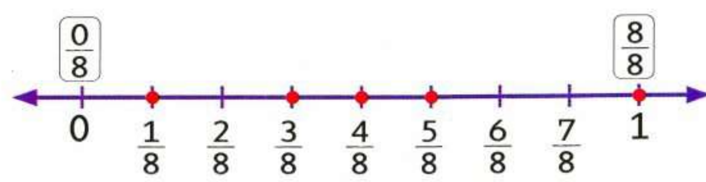
For example

You can place : $\frac{3}{8}$, $\frac{1}{8}$, $\frac{5}{8}$, $\frac{4}{8}$, $\frac{8}{8}$ on the number line as follows.

- Divide the number line in 8 equal parts as the number in denominator.



- Place the given fractions on the number line.



Second

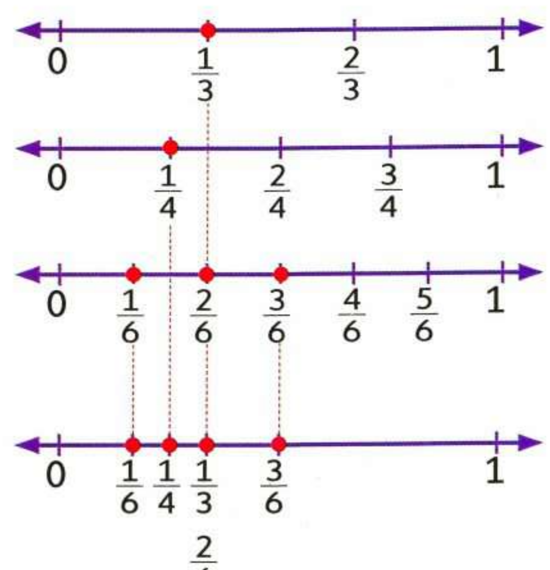
How can you place proper fractions with different denominators on the number line ?

For example

You can place : $\frac{3}{6}$, $\frac{2}{6}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{6}$ on the number line as follows.

One way

- Draw a number line divided into thirds, one divided into fourths and another one divided into sixths.
- Place $\frac{1}{3}$ on the top number line, $\frac{1}{4}$ on the second number line, and $\frac{3}{6}$, $\frac{2}{6}$, $\frac{1}{6}$ on the third number line.
- Now, draw a new number line and place each fraction with alignment its place on the previous number line.

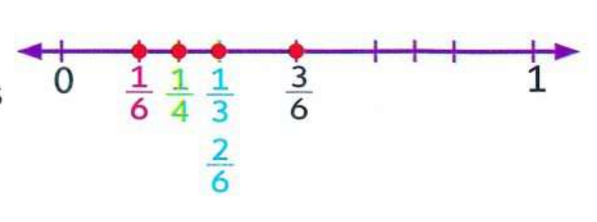


Notes for parents

- Help your child divide each number line into equal parts.

Another way

- Draw a number line and divide it into thirds and place $\frac{1}{3}$ on it, divide it into fourths and place $\frac{1}{4}$ on it, and then divide it into sixths and place $\frac{3}{6}, \frac{2}{6}, \frac{1}{6}$ on it.

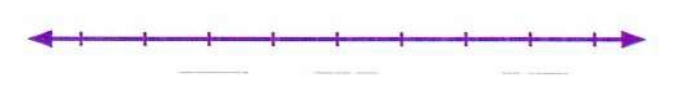


Check

Order the following fractions on the number line.

a. $\frac{1}{4}, \frac{1}{2}, \frac{2}{4}$

b. $\frac{1}{4}, \frac{4}{8}, \frac{2}{8}, \frac{1}{2}, \frac{7}{8}$



c. $\frac{1}{2}, \frac{5}{8}, \frac{1}{4}, \frac{7}{8}$

d. $\frac{1}{3}, \frac{2}{6}, \frac{3}{3}, \frac{1}{2}$

e. $\frac{5}{5}, \frac{1}{10}, \frac{2}{5}, \frac{3}{10}$

f. $\frac{1}{6}, \frac{5}{6}, \frac{1}{2}, \frac{1}{3}$

- Remind your child with equivalent fractions like ($\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8}$).

Exercise **29**

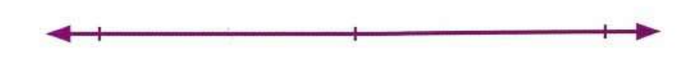
On Lesson 2

Ordering fractions using the number line

From the school book

1 Put the following fractions on the number line.

a. $\frac{1}{3}$, $\frac{1}{6}$, $\frac{2}{6}$, $\frac{3}{6}$

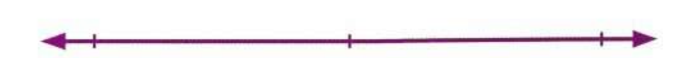


b. $\frac{1}{5}$, $\frac{3}{10}$, $\frac{5}{10}$, $\frac{4}{4}$

c. $\frac{1}{3}$, $\frac{3}{6}$, $\frac{2}{3}$, $\frac{0}{5}$

d. $\frac{2}{8}$, $\frac{7}{8}$, $\frac{1}{4}$, $\frac{3}{6}$

e. $\frac{6}{6}$, $\frac{3}{5}$, $\frac{1}{10}$, $\frac{1}{2}$



f. $\frac{1}{6}$, $\frac{2}{6}$, $\frac{4}{4}$, $\frac{4}{6}$

---

2 Put the following fractions on the number line then order them in an ascending order.

a. $\frac{1}{5}$, $\frac{6}{10}$, $\frac{2}{5}$, $\frac{4}{5}$

The order is : ________ , ________ , ________ , ________

b. $\frac{7}{8}$, $\frac{1}{4}$, $\frac{3}{4}$, $\frac{5}{8}$

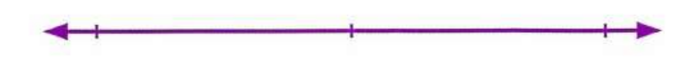
The order is : ________ , ________ , ________ , ________

c. $\frac{5}{6}$, $\frac{1}{3}$, $\frac{4}{6}$, $\frac{1}{2}$

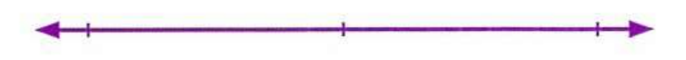
The order is : ________ , ________ , ________ , ________

3 **Place the following fractions on the number line in the correct order.**

a. $\frac{3}{4}$, $\frac{2}{3}$, $\frac{4}{4}$, $\frac{4}{6}$

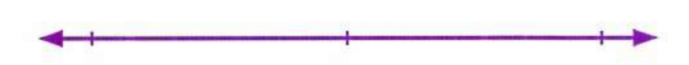


b. $\frac{1}{3}$, $\frac{2}{8}$, $\frac{6}{8}$, $\frac{12}{12}$

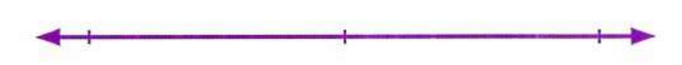


c. $\frac{3}{6}$, $\frac{1}{4}$, $\frac{7}{8}$, $\frac{2}{8}$

d. $\frac{6}{12}$, $\frac{2}{8}$, $\frac{1}{4}$, $\frac{10}{12}$



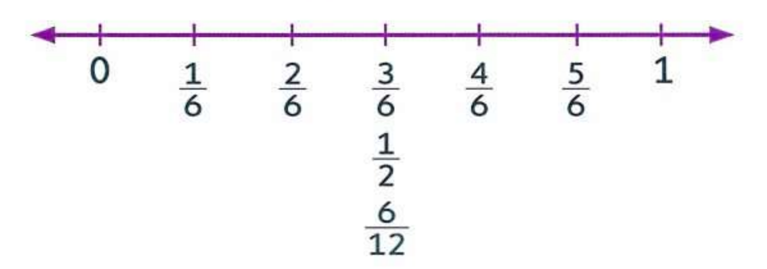
e. $\frac{5}{6}$, $\frac{1}{4}$, $\frac{3}{6}$, $\frac{1}{3}$



f. $\frac{7}{7}$, $\frac{2}{3}$, $\frac{5}{6}$, $\frac{1}{2}$

Challenge

4 Look at the number line below. Then find at least three other equivalent fractions that could be placed on the number line and record them (Do not list any more equivalent fractions for $\frac{3}{6}$).



Lesson 3

Applications on numbers

Remember 1 Place value

Writing and reading numbers up to 6 digits.

- Place value chart :

531,629

Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones
5	3	1	6	2	9

or

5 hundred thousands 500,000	3 ten thousands 30,000	1 thousand 1,000	6 hundreds 600	2 tens 20	9 ones 9

Standard form : 5 3 1, 6 2 9

Expanded form : 500,000 + 30,000 + 1,000 + 600 + 20 + 9

Word form : Five hundred thirty-one thousand, six hundred twenty-nine

Put a comma between the thousands place and the hundreds place.

Remember

Remember 2 Creating greatest and least number from given digits

How to create the greatest and the least number from the digits 4 , 5 , 9 , 0 , 1

Remember

Do not put the 0 digit in the highest place value.

To create the greatest number from given digits, arrange the digits from greatest to least.

The order is : 9 5 4 1 0

So, the greatest number is : **95,410**

To create the least number from given digits, arrange the digits from least to greatest.

The order is : 1 0 4 5 9

So, the least number is : **10,459**

Notes for parents

- Tell your child any number and ask him/her to represent it in different forms.

Remember 3 Comparing numbers

Compare 52,349 and 52,617

Step 1

Begin at the left. Compare.

52,349
52,617

Both numbers have 5 ten thousands , 2 thousands.

Step 2

Find the first place where the digits are different. Compare.

52,349
52,617

3 hundreds is less than 6 hundreds.

So, 52,349 < 52,617

or 52,617 > 52,349

When comparing numbers, the number which has more number of digits is the greater.

5843 > 798

1. Write in expanded form.

a. 937,215 = ______ + ______ + ______ + ______ + ______ + ______

b. 26,762 = ______ + ______ + ______ + ______ + ______

2. Write the greatest and the least 5 digit number formed form 3 , 7 , 8 , 0 , 9

- The greatest number is ______
- The least number is ______

3. Write in a descending order.

74,563 871,904 100,762 39,999

The order is : ______ , ______ , ______ , ______

- Tell your child two numbers and ask him/her to compare between them.
- Ask your child to tell you two numbers one greater and one less than (28,512).

Exercise 30
On Lesson 3

Applications on numbers

📖 From the school book

1 Complete the table.

	Standard form	Word form
a.	______	Nine hundred eighty-two thousand, three hundred twelve
b.	______	Forty-six thousand, two hundred fifty-six
c.	______	Three hundred one thousand, three hundred one
d. 📖	14,780	______
e. 📖	308,562	______

2 Write in expanded form.

a. 452,173 = ______ + ______ + ______ + ______ + ______ + ______

b. 603,426 = ______ + ______ + ______ + ______ + ______

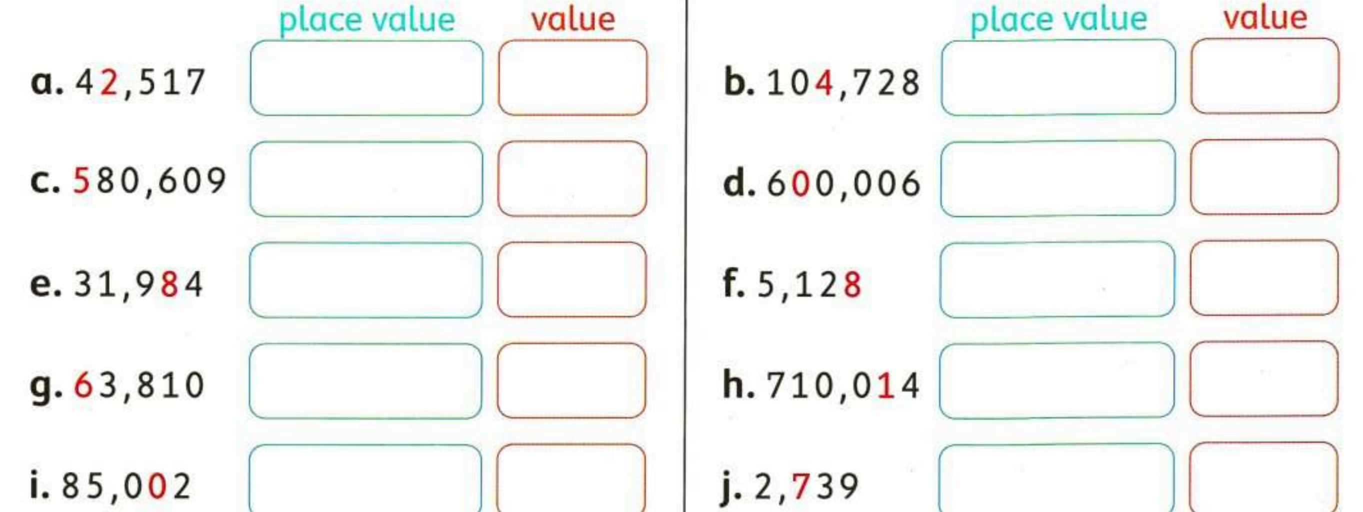
c. 76,289 = ______ + ______ + ______ + ______ + ______

d. 1,765 = ______ + ______ + ______ + ______

e. 20,196 = ______ + ______ + ______ + ______

f. 7,053 = ______ + ______ + ______

3 Write the value and place value of the colored digit.



	place value	value		place value	value
a. 4**2**,517			b. 10**4**,728		
c. **5**80,609			d. 6**0**0,006		
e. 31,9**8**4			f. 5,12**8**		
g. **6**3,810			h. 710,0**1**4		
i. 85,0**0**2			j. 2,**7**39		

4 Write in standard form.

a. 10,000 + 4,000 + 500 + 30 + 6 = ______

b. 800,000 + 30,000 + 2,000 + 400 + 90 + 7 = ______

c. 500 + 500,000 + 40,000 + 2 + 10 = ______

d. 1 + 4 + 60 + 7,000 + 200,000 = ______

e. 75 Tens = ______

f. 45 Tens + 20 Ones + 50 Hundreds = ______

g. 2 Hundreds + 32 Tens + 17 Ones = ______

h. 36 Thousands + 16 Ones = ______

---

5 Compare, write > , < or =.

a. 3,197 ◯ 3,240

b. 4 thousands ◯ 400 hundreds

c. 77,204 ◯ 77,201

d. 1 hundred thousand ◯ 10,000 ones

e. 501,118 ◯ 801,115

f. 30 tens ◯ 30 thousands

g. 15,013 ◯ 15,927

h. 18 ten thousands ◯ 180 hundreds

i. 81,236 ◯ 79,986

j. 550 thousands ◯ 5,500 tens

k. 73,069 ◯ 9,573

l. 4,321 ones ◯ 4,321

m. 99,999 ◯ one hundred thousand

n. 213,504 ◯ 200,000 + 10,000 + 3,000 + 500 + 5

o. 628,709 ◯ six hundred twenty-eight thousand, seven hundred eight

p. 523,768 ◯ 500,000 + 23,000 + 760 + 18

6 Rearrange the digits to get the greatest number and the least number from the given digits.

a. 📖 3 1 4 2
greatest : ______ least : ______

b. 8 9 1 4
greatest : ______ least : ______

c. 📖 0 7 4 5
greatest : ______ least : ______

d. 📖 7 3 0 9
greatest : ______ least : ______

e. 3 4 6 2 9
greatest : ______ least : ______

f. 📖 2 1 1 7 6
greatest : ______ least : ______

g. 6 4 0 8 1
greatest : ______ least : ______

h. 6 9 7 0 2 4
greatest : ______ least : ______

i. 7 3 4 8 1 5
greatest : ______ least : ______

j. 3 0 2 2 4 9
greatest : ______ least : ______

---

7 Choose the correct answer.

a. 300,000 + 70,000 + 3,000 + 200 + 7 = ______
(72,373 or 37,327 or 370,327 or 373,207)

b. 999 ◯ 1,000 (< or = or >)

c. The greatest number formed from 3 , 7 , 9 , 0 is ______
(9,730 or 9,073 or 3,079 or 9,703)

d. The smallest number formed from 7 , 0 , 6 , 8 , 5 , 1 is ______
(156,780 or 156,078 or 105,678 or 876,510)

e. 30 Hundreds = ______ Thousands (3 or 30 or 300 or 3,000)

f. 📖 The digit in my Thousands place is less than the digit in my Ones place.
Who am I ? (345,123 or 943,107 or 745,132 or 29,357)

g. 📖 The digit in my Hundreds place is 3 more than the digit in my Ten Thousands place. Who am I ? (354,234 or 351,869 or 350,285 or 234,943)

8 **Write the numbers in order from least to greatest.**

a. 61,734 | 6,950 | 61,850 | 116,658

The order is : ________ , ________ , ________ , ________

b. 561,248 | 91,234 | 74,005 | 9,706

The order is : ________ , ________ , ________ , ________

c. 📖 345,010 | 543,100 | 354,010 | 345,001

The order is : ________ , ________ , ________ , ________

d. 34,170 | 599 | 35,005 | 9,730 | 705,662

The order is : ________ , ________ , ________ , ________ , ________

9 **Write the numbers in order from greatest to least.**

a. 22,012 | 8,234 | 14,235 | 109,010

The order is : ________ , ________ , ________ , ________

b. 37,309 | 8,562 | 37,903 | 4,298

The order is : ________ , ________ , ________ , ________

c. 100,701 | 99,358 | 100,702 | 8,359 | 98,781

The order is : ________ , ________ , ________ , ________ , ________

d. 80,499 | 801 | 8,941 | 801,014 | 80,949

The order is : ________ , ________ , ________ , ________ , ________

Challenge

10 📖 **a.** The digit in my Hundreds place is 8 and my Thousands place has a 3. If the digit in my Tens and Ones places is 2, who am I ?

____

b. The product of 5 times 0 is in my Tens place, and my Hundreds place holds the product of 3 times 2. Put a 2 in my Ones place and tell me who I am.

____

Lesson 4

Elapsed time

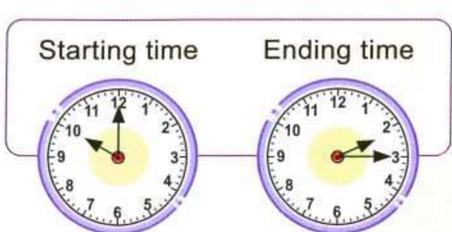
Learn

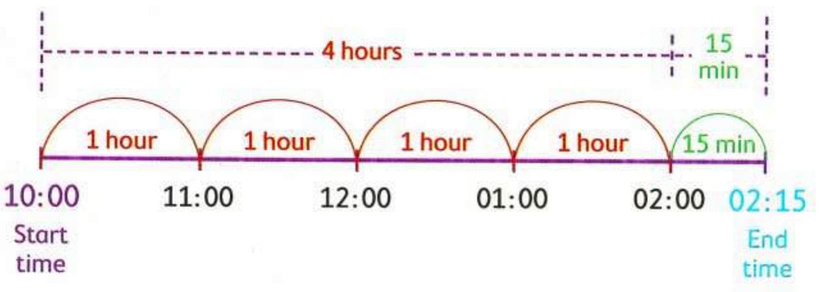
- Elapsed time is the time that passes from the start to the end of an activity.
- You can use a time line to find elapsed time.

Example 1

Sara arrived at the mall at 10:00 A.M.
She leaved the mall at 02:15 P.M.

How long did she spend at the mall ?



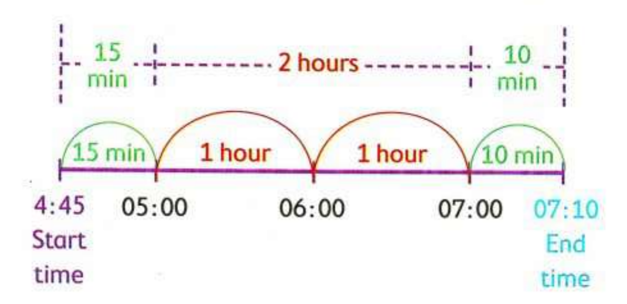


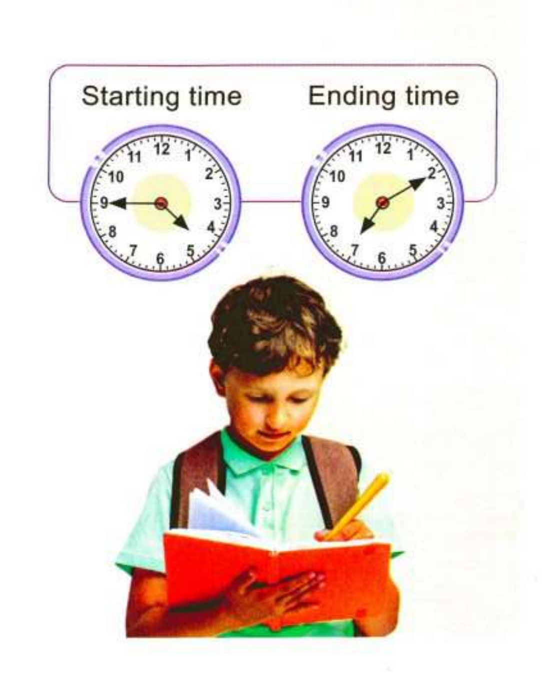
So, Sara spent 4 hours and 15 minutes.

Example 2

Ziad arrived at the library at 04:45 P.M.
He leaved the library at 07:10 P.M.

How long did he stay at the library ?





so, Ziad stayed 2 hours and 25 minutes

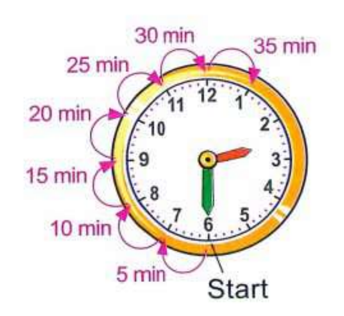
Notes for parents

- Help your child find the elapsed time using a time line.
- Help your child find the elapsed time, ask him to find the elapsed time "from 09:00 P.M. to 06:00 A.M." as his/her sleeping time.

Example 3 **Find the ending time.**

Jana and her mother get on the bus at 02:30 P.M. Their ride home from the garden lasts 35 minutes. **What time do they get home ?**

Count forward on a clock.



02:30 P.M. and 35 minutes more
= 03:05 P.M.

Math tip

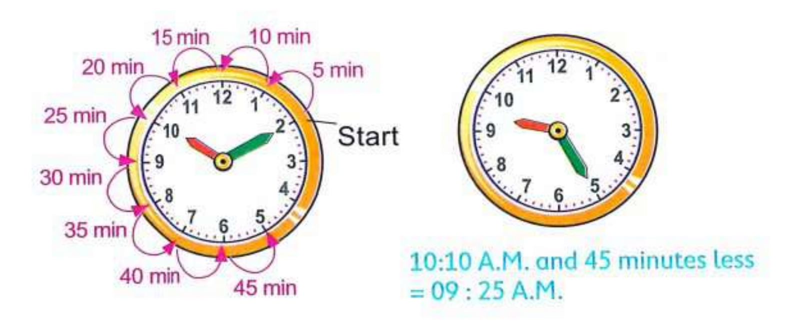
When counting forward on a clock, increase one hour for each cross on 12.

So, they get home at 03:05 P.M.

Example 4 **Find the starting time.**

Nora and her son hiked for 45 minutes. They stopped for a snack at 10:10 A.M. **When did they start hiking ?**

Count backward on a clock.



10:10 A.M. and 45 minutes less
= 09 : 25 A.M.

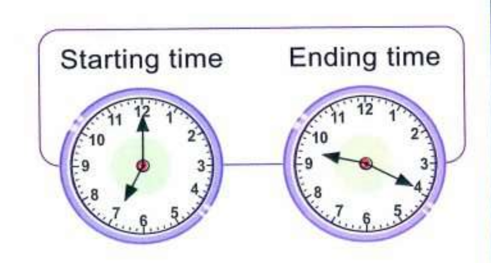
Math tip

When counting backward on a clock, decrease one hour for each cross on 12.

So, they started hiking at 09:25 A.M.

Check

A television cartoon movie begins at 07:00 P.M. and ends at 09:20 P.M. Find the elapsed time.



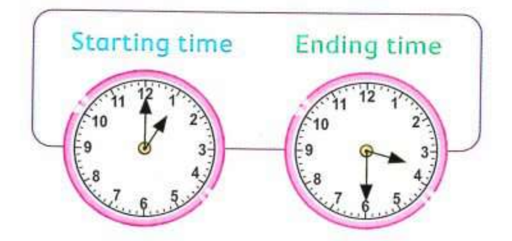
• Remind your child that 1 day = 24 hours, 1 hour = 60 minutes, half of an hour = 30 minutes.
• Let your child use clock model drawings or time line to find the elapsed time.
• Remind your child that counting backward or counting forward is useful way to find the starting or ending time.

Elapsed time

From the school book

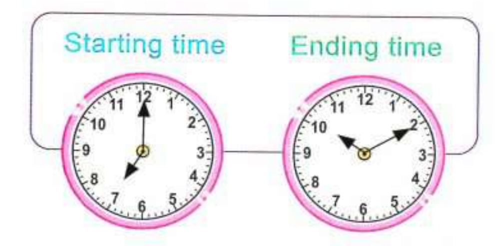
1 Use each analog clock to find the elapsed time.

a.



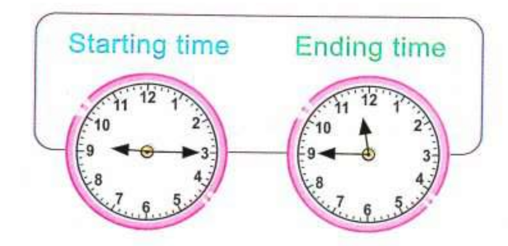
Elapsed time

b.



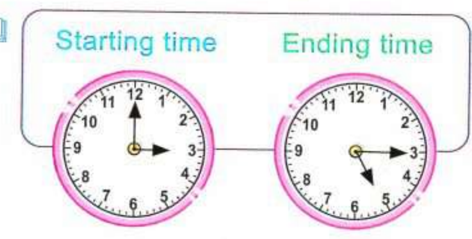
Elapsed time

c.



Elapsed time

d.



Elapsed time

2 Complete the table.

	Start time	End time	Elapsed time
a.	03:00 P.M.	06:25 P.M.	
b.	06:30 A.M.	7:00 A.M.	
c.	04:30 P.M.	09:00 P.M.	
d.	03:40 P.M.	07:30 P.M.	
e.	11:15 A.M.	05:30 P.M.	

3 Amir went to the museum with his family. They arrived at 10:00 A.M. and they left the museum to go back home at 03:30 P.M.

How long were they at the museum ?

---

4 Ameen arrives at school at 07:30 A.M. He leaves school at 03:15 P.M.

How long is Ameen at school ?

---

5 **a.** Kamal's family took a road trip. They left at 07:30 A.M. and drove until 12:15 P.M., when they stopped for lunch.

How many hours were they on the road ?

b. Kamal's family spent 30 minutes eating lunch before they got back on the road.

What time did they start driving again ?

---

6 Madiha made a cake for her sister's birthday. It took her 25 minutes to mix it, 45 minutes to bake, and then another 30 minutes to frost it.

How long did it take Madiha to complete the cake ?

---

7 Heba spent 3 hours at dance practice. She finished at 06:10 P.M.

What time did she start ?

---

8 **Answer the following question as the example.**

Example:

Ziad woke up at 07:00 A.M. He has to leave at 08:00 A.M for school. It takes him 20 minutes to eat breakfast, 5 minutes to brush his teeth and hair, and 10 minutes to pack his bag. If he wanted to watch a 30-minute cartoon.

Would he have enough time before he leaves for school ?

Answer

- From 7:00 A.M. to 8:00 A.M. = 60 minutes
- 20 (breakfast) + 5 (teeth and hair) + 10 (pack) = 35 minutes

Remember

1 hour = 60 minutes
2 hours = 120 minutes
Half hour = 30 minutes

- The rest time till the time of going school = 60 – 35 = 25 minutes
  He would not watch a cartoon for 30-minutes
  He could watch for 25 minutes or less.

Sandy did her homework. She took 30 minutes for math, 45 minutes for Arabic and 35 minutes for English.

How long did she take to finish her homework ?

If Sandy started at 4:00 P.M., would she have enough time before her karate class which starts at 6:00 P.M. ?

____

____

Challenge

9 Hany had football practice after school. He left school at 3:30 P.M. He walked for 15 minutes to the field, practiced for an hour and a half, and then walked 20 minutes home. **What time did he get home ?**

____

____

10 Samy comes home from school and starts his homework. It takes him 22 minutes to do his math, 20 minutes to read, and he has a science experiment that takes 18 minutes. Hala has the same homework. She takes 15 minutes to do her math, reads for 20 minutes, and then the science experiment only takes her 11 minutes.

a. How long does it take Samy to finish all his homework ?

____

____

b. How long does it take Hala to finish all of her homework ?

____

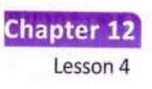
____

c. How much longer did Samy take to do his homework ?

____

____

Place a smiley face

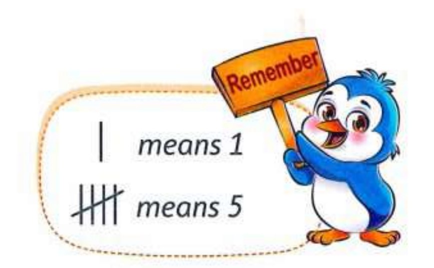


Lesson 5

Applications on data representations

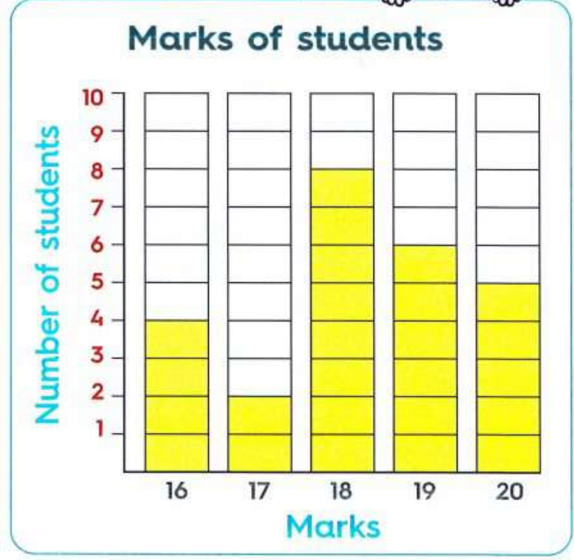
- **Data can be represented by more than one way.**
  This is a survey about students marks in an exam.

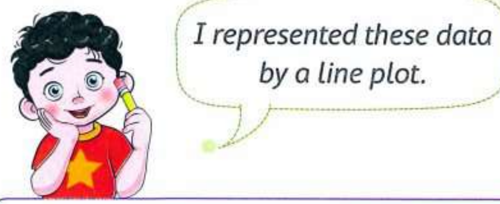
The data is organized in a tally table.

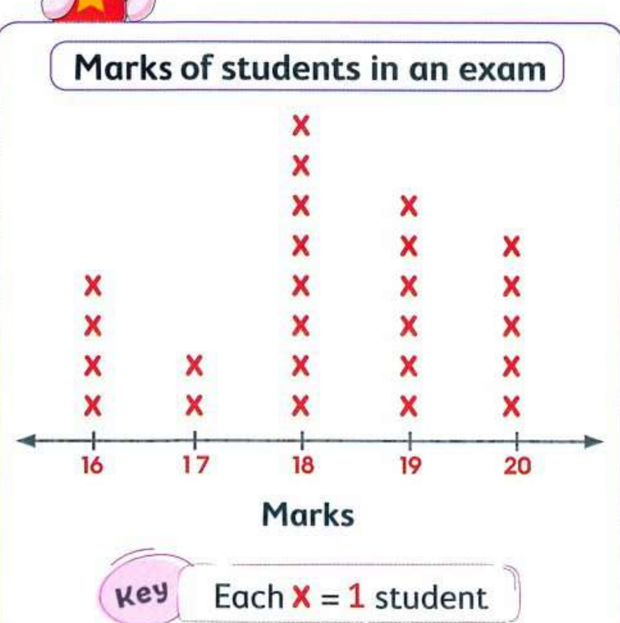


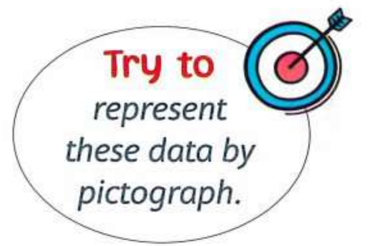
Marks of students in an exam

Marks	Tally	Number
16	||||	4
17	||	2
18	𝍸 |||	8
19	𝍸 |	6
20	𝍸	5





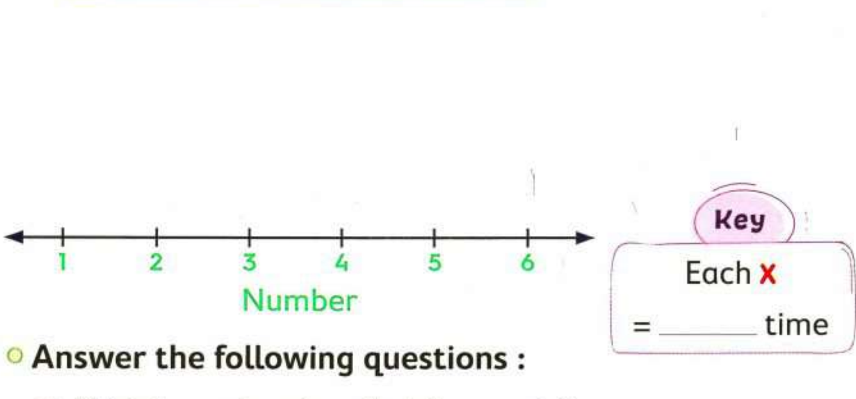




• Let your child explain how to represent data by line plot and bar graph.

Applications on data representations

1 **The following table shows the roll of dice 35 times. Represent the data by a line plot.**



Key
Each X = ______ time

Dice rolls		
Number	Tally	Times
1	𝍸 |	6
2	𝍸	5
3	𝍸 ||||	9
4	𝍸 |||	8
5	|||	3
6	||||	4

○ **Answer the following questions :**

a. Which number is rolled the most ? ______

b. Which number is rolled the least ? ______

c. How many times shows an even number ? ______

d. How many times shows an odd number ? ______

e. What is the difference between the total even rolls and total odd rolls ? ______

Remember

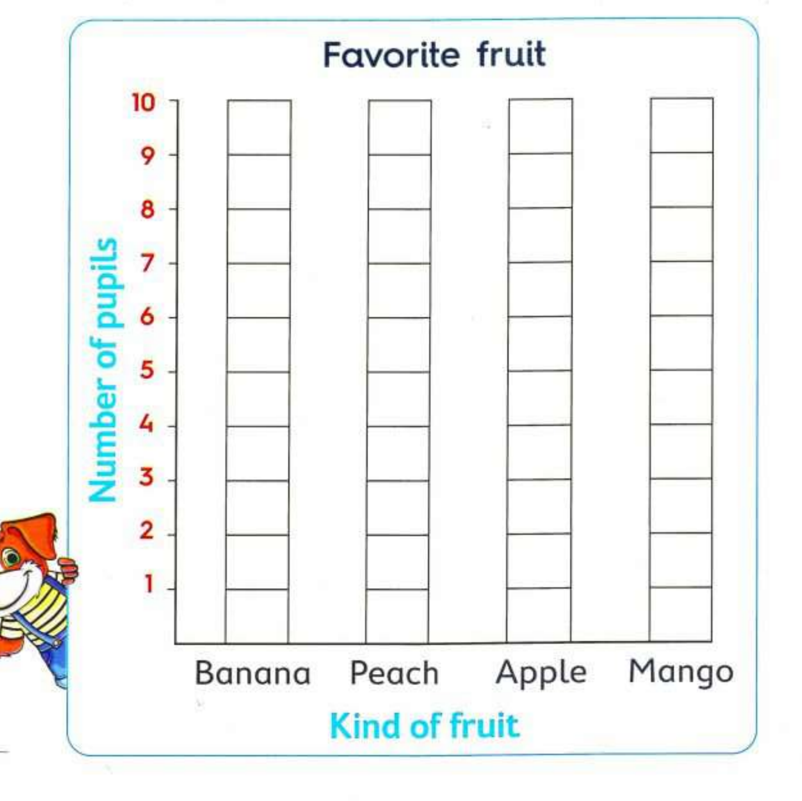
Even number such as :
0 , 2 , 4 , 6 , 8 , ______

Odd number such as :
1 , 3 , 5 , 7 , 9, ______

---

2 **The following tally table shows the class favorite fruit, complete the table. Represent these data by a bar graph.**

Favorite fruit		
Fruit	Tally	Number
Banana	𝍸 |||	______
Peach	||||	______
Apple	𝍸 𝍸	______
Mango	𝍸 |	______



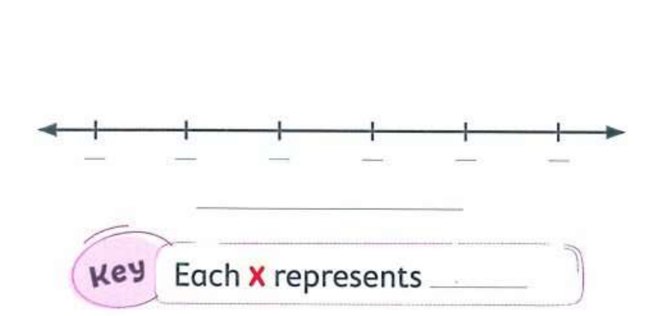
○ **Answer the following questions :**

a. Which fruit is liked the most ? ______

b. Which fruit is liked the least ? ______

c. How many more pupils liked banana than mango ? ______

3 Complete the table, represent the data by a line plot.



Ages of children in karate class		
Age in years	Tally	Number
7	||	______
8	||||	______
9	||	______
10	~~||||~~ |	______
11	|||	______
12	||	______

- **Answer the following questions :**

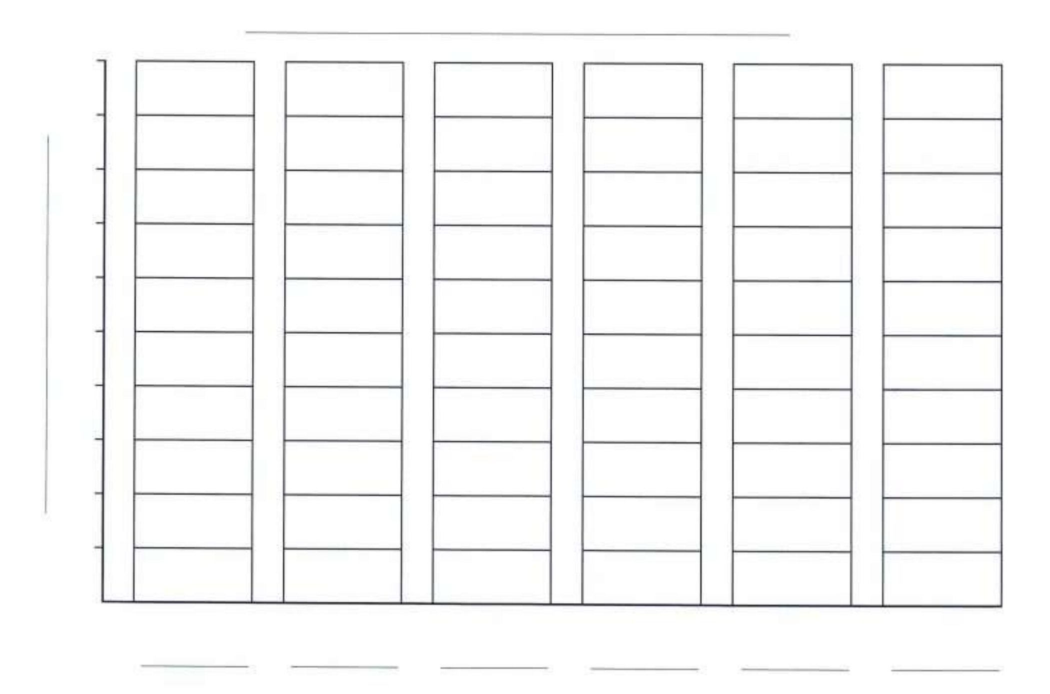
a. How many children in the class are 11 years ? ______ children.

b. What age is the greatest number of children ? ______ years old.

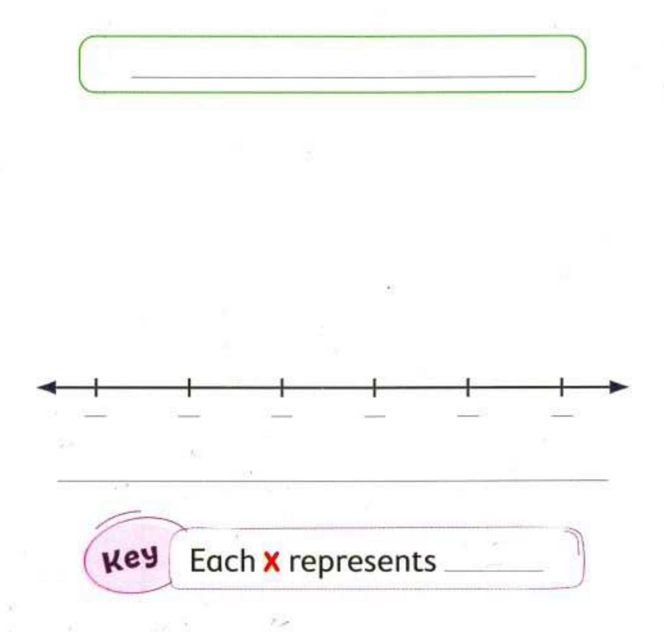
c. How many children are even years old ? ______ children.

d. How many children are in karate class in all ? ______ children.

Represent the data by a bar graph.



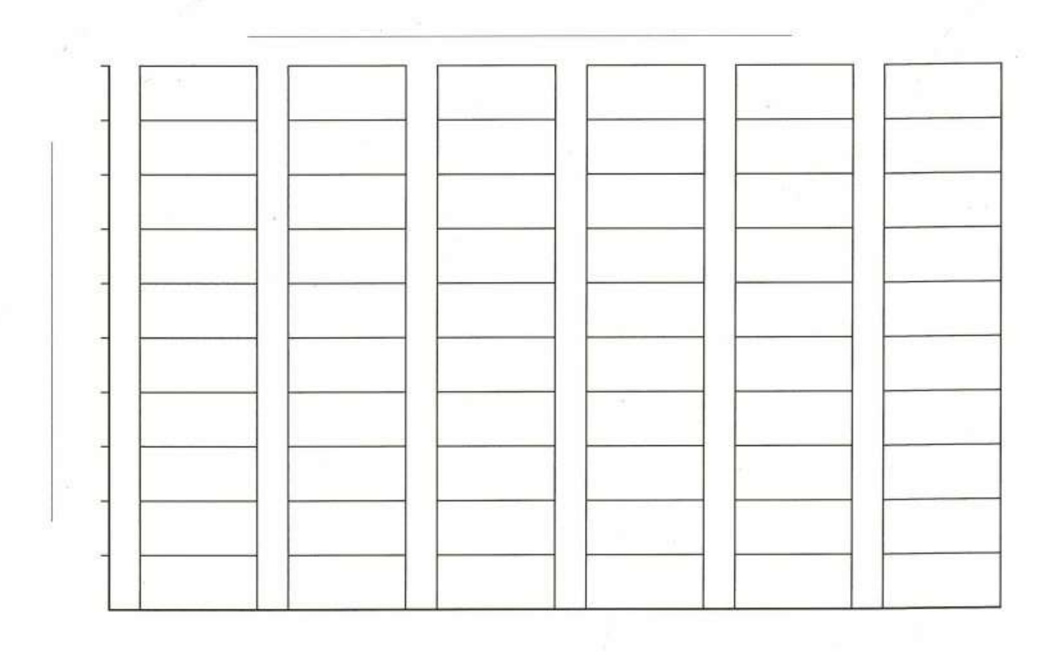
4 Complete the table, represent the data by a line plot.



Players' ages of football team

Age in years	Tally	Number
22	|||	____
23	~~||||~~ |	____
24	~~||||~~ |||	____
25	~~||||~~ |	____
26	||	____
27	|||	____

• **Represent the data by bar graph :**



○ **Answer the following questions :**

a. How many players are 25 years old ? ________

b. Which age has the greatest number of players ? ________

c. How many players are younger than 26 years old ? ________

d. How many players are in the football team ? ________

GLOSSARY

A

add	يجمع
addend	العدد المضاف
adding	الجمع
associative property	خاصية الدمج

B

bar graph	التمثيل البيانى بالأعمدة
bar model	نموذج شريطى
bigger	أكبر

C

centimeter	سنتيمتر
clock	ساعة حائط
common	مشترك
compare	يقارن
comparing	مقارنة
comparison	مقارنة
complex shape	شكل هندسى مركب
correct	صحيح

D

data	بيانات
denominator	المقام
denominator place	مكان المقام
difference	الفرق
dimension	بُعد
distributive property	خاصية التوزيع
divide	يقسّم
dividend	المقسوم
division	القسمة
divisor	المقسوم عليه

E

eighth	ثُمن
elapsed time	الوقت المنقضى
end	ينتهى
ending	النهاية
equal parts	أجزاء متساوية
equation	معادلة
equivalence	التكافؤ
equivalent fraction	الكسر المكافئ
estimate	يقدّر
estimation	تقدير

F

fact family	حقائق رياضية
factor	عامل
fair shares	الأسهم العادلة
fifth	خُمس
fill in	يملأ
find	يوجد
finding	إيجاد
fluency	الطلاقة
fourth	ربع
fraction	كسر
fractional part	جزء كسرى

G

greater than	أكبر من
greatest	الأكبر
group	مجموعة
grouping	تجميع

H

half	نصف
halves	أنصاف
hidden	مختفى
hour	ساعة
hundred	مائة
hypothesis	الفرضية

I

incorrect	خطأ
inverse	عكسى

J

join	ينضم / يوصل

K

key	مفتاح

L

label	يضع عنوان
least	الأقل
length	طول
less than	أقل من
line	خط
line plots	مخطط التمثيل بالنقاط
list	قائمة
locate	يضع

M

match	يوصل
mean	يعنى
measure	يقيس
measurement	قياس
minute	دقيقة
missing	مفقود / ناقص
mistake	خطأ
model	نموذج
multiplication	الضرب

N

next	تالى
non-routine	غير تقليدى
number	عدد
number line	خط الأعداد
numerator	البسط

O

object	شيء
order	يرتب / ترتيب

P

parentheses	أقواس
perimeter	محيط
place value	قيمة مكانية
prediction	تخمين
previous	السابق
problem	مسألة
product	حاصل الضرب
proper fraction	كسر اعتيادى
put	يضع

Q

quotient	خارج القسمة

R

record	يسجل
rectangle	مستطيل
relation	علاقة
represent	يمثل
result	نتيجة
riddle	لغز

S

set	مجموعة
shape	شكل
short	قصير
sixth	سدس
size	مقاس
square	مربع
square unit	وحدة مربعة
standard form	الصيغة الرمزية
start	يبدأ
starting	البدء
statement	عبارة
story problem	مسألة كلامية
strategy	استراتيجية
strip	شريط
subtract	يطرح
subtracting	الطرح
suitable	مناسب
sum	مجموع
symbol	رمز

T

table	جدول
ten thousand	عشرة آلاف
tenth	عُشر
third	ثُلث
thousand	ألف
tick	يضع علامة
time	الوقت
total	مجموع

U

unequal	غير متساوى
unit	وحدة
unit fraction	كسر الوحدة
unknown	المجهول

V

value	قيمة

W

way	طريقة / أسلوب
whole	كامل / صحيح
width	عرض
word form	الصيغة الكلامية
whole one	واحد صحيح

Mathematics

By a group of supervisors

STEP BY STEP REVISION FREE PART

1

- Worksheets
- General Revision
- Final Assessments

3rd PRIMARY
SECOND TERM
2025

Index

First: Worksheets
Second: Monthly Tests
Third: General Revision
Fourth: Final Assessments

First Worksheets

Sheet 1

On lessons 1 & 2 - chapter 7

1 Complete.

a. $3 \times (4 \times 2) =$ ______ $\times$ ______ $=$ ______

b. $(5 \times 6) \times 7 =$ ______ $\times$ ______ $=$ ______

c. $(5 \times 4) \times 9 =$ ______ $\times$ ______ $=$ ______

d. $3 \times 17 = 3 \times ($ ______ $+ 7)$

e. $6 \times 18 = 6 \times (10 +$ ______ $)$

2 Choose the correct answer.

a. $4 \times (3 \times 5) = (4 \times$ ______ $) \times 5$ (3 **or** 15 **or** 12 **or** 7)

b. $6 \times 2 \times 4 =$ ______ (46 **or** 48 **or** 52 **or** 56)

c. $14 \times 8 = ($ ______ $+ 4) \times 8$ (1 **or** 8 **or** 10 **or** 7)

d. $7 \times 8 = 7 \times (7 +$ ______ $)$ (1 **or** 7 **or** 8 **or** 49)

3 Put "> , < or =".

a. $(3 \times 2) \times 4$ ◯ $(4 \times 2) \times 4$

b. $(1 \times 5) \times 8$ ◯ $4 \times (5 \times 2)$

c. $4 \times 7 \times 2$ ◯ $5 \times 5 \times 6$

4 Use the distributive property to find the product.

a. $8 \times 13 =$ ______

= ______

= ______

= ______

b. $15 \times 7 =$ ______

= ______

= ______

= ______

Sheet 2 Till lesson 3 - chapter 7

1 Choose the correct answer.

a. $7 \times 8 = 7 \times ($ ________ $+ 5)$ (8 **or** 1 **or** 3 **or** 4)

b. $5 \times (4 \times 2) =$ ________ (40 **or** 30 **or** 18 **or** 28)

c. $2 \times 3 \times$ ________ $= 30$ (10 **or** 5 **or** 15 **or** 20)

d. $5 \times (3 + 7) =$ ________ (50 **or** 35 **or** 15 **or** 12)

2 Complete.

a. The estimation of 5×9 is ________

b. The estimation of $3 \times 6 \times 7$ is ________

c. The estimation of 13×4 is ________

d. The estimation of 7×19 is ________

3 Answer the following.

a. There are 3 bags, each bag holds 5 boxes, in each box there are 10 candies.

How many candies are in all ?

____

____

b. A baker bakes 12 cakes in one hour.

Estimate how many cakes he can bake in 8 hours.

____

____

Sheet 3

Till lessons 4 & 5 - chapter 7

1 Choose the correct answer.

a. $27 \div 3 =$ ______ (9 or 8 or 10 or 7)

b. ______ $\times 6 = 48$ (6 or 7 or 8 or 9)

c. The product of 4 , 2 and 3 is ______ (30 or 10 or 48 or 24)

d. $42 \div$ ______ $= 6$ (8 or 6 or 5 or 7)

2 Complete.

a. ______ $\div 5 = 4$

b. $54 \div 9 =$ ______

c. ______ $\times 7 = 21$

d. $6 \times 14 =$ ______

e. $3 \times$ ______ $= 30$

f. ______ $\div 6 = 5$

3 Answer the following.

a. Dina bought 7 pens for 12 pounds each.

How much money did she pay ?

____

____

b. Bassem has 36 apples, he wants to pack each 4 apples in a bag.

How many bags does he need ?

____

____

Sheet 4 Till lesson 6 - chapter 7

1 Choose the correct answer.

a. The perimeter of the square whose side length is 9 cm = ________ cm.
(18 **or** 27 **or** 36 **or** 45)

b. The perimeter of the rectangle whose length is 7 cm and width 3 cm
= ________ cm (10 **or** 20 **or** 21 **or** 30)

c. The area of the square (8 cm) = ________ square cm.
(64 **or** 32 **or** 16 **or** 80)

d. $13 \times 5 =$ ________ (50 **or** 55 **or** 60 **or** 65)

2 Complete.

a. The area of the rectangle (12 cm, 4 cm) = ________ square cm.

b. $2 \times 5 \times 8 =$ ________

c. The side length of the square whose perimeter is 8 m = ________ m.

d. The length of the rectangle whose width is 6 cm and perimeter is 28 cm
= ________ cm.

3 Answer the following.

a. Ayman ran around a track in the shape of a square whose side length is 18 m. If Ayman completed one round. (18 m)

Find how many meters Ayman ran.

____

b. Karma stretched a tape of ribbon and made with it a rectangle of length 20 cm and perimeter 60 cm.

Find the width of the rectangle.

____

Sheet 5

Till lessons 7 to 9 - chapter 7

1 **Choose the correct answer.**

a. $4 \times 7 \times 2 =$ ________ $(8 \times 7$ **or** 6×7 **or** 4×9 **or** $13 \times 2)$

b. $10 \times 17 =$ ________ (27 **or** 170 **or** 107 **or** 71)

c. $40 \div$ ________ $= 5$ (20 **or** 8 **or** 10 **or** 4)

d. There were 19 carrots, one rabbit ate 4 carrots and another 5 rabbits equally ate the rest, then each rabbit of them ate ________ carrots.

(4 **or** 5 **or** 3 **or** 2)

2 **Put (✓) to the correct statement or (✗) to the incorrect statement.**

a. $42 \div 7 = 6$ ( )

b. The perimeter of square of side length 10 cm is 40 cm ( )

c. $3 \times 17 = 3 \times (1 + 3)$ ( )

d. $5 \times (7 + 12) = 5 \times 17$ ( )

3 **Answer the following.**

a. Hany bought 4 kilograms of apple, the price of each kilogram is 9 pounds, Amgad bought 1 kilogram of mango for 25 pounds.

How much money did they pay all together ?

____

____

b. Ahmed has 85 pounds. He gave his sister 45 pounds and the rest is shared with Ahmed and 4 of his friends.

How much money does Ahmed have now ?

____

____

Assessment Chapter 7

1 Choose the correct answer.

a. $(2 \times 5) \times 6 =$ ______ $(3 \times 6$ **or** 10×6 **or** 7×6 **or** $25 \times 6)$

b. $(2 \times 3) \times$ ______ $= 48$ (12 **or** 6 **or** 8 **or** 4)

c. ______ $\div 4 = 7$ (3 **or** 6 **or** 12 **or** 28)

d. ______ $\times 7 = 56$ (9 **or** 7 **or** 8 **or** 6)

e. $40 \div$ ______ $= 4$ (44 **or** 10 **or** 36 **or** 4)

f. The perimeter of square = side length × ______ (2 **or** 3 **or** 4 **or** 6)

2 Complete.

a. The perimeter of rectangle = (L + W) × ______

b. $3 \times 4 \times 5 = 3 \times (4 \times$ ______ $)$

c. $7 \times 9 = (7 \times 5) + (7 \times$ ______ $)$

d. $5 \times$ ______ $= 20$

e. ______ $\div 3 = 6$

f. If $24 \div 4 = 6$, then ______ $\times 6 = 24$

3 Put (✓) to the correct statement or (✗) to the incorrect statement.

a. $5 \times 7 = (5 \times 4) + (5 \times 5)$ ( )

b. The perimeter of square of side length 6 cm is 36 cm. ( )

c. If $36 \div 9 = 4$, then $9 \times 4 = 36$ ( )

d. The perimeter of the rectangle whose length is 8 cm and width is 5 cm equals 26 cm. ( )

e. The side length of the square whose perimeter is 28 cm equals 7 cm. ( )

f. $3 \times 4 \times 5 = 7 \times 5$ ( )

4 Solve for the unknown in the problems below.

a. $(3 \times 2) \times$ ______ $= 36$

b. $(8 \times 3) \times$ ______ $= 48$

c. $2 \times (5 \times$ ______ $) = 50$

d. $7 \times (12 \times$ ______ $) = 0$

e. $(4 \times 3) \times$ ______ $= 48$

f. $10 \times (6 \times$ ______ $) = 600$

g. $(9 \times 7) \times$ ______ $= 63$

h. $(4 \times 2) \times$ ______ $= 88$

5 a. Find the side length of a square if its perimeter is 32 cm.

____

____

b. Find the length of the rectangle whose width is 5 m and perimeter is 22 m.

____

____

6 Bassem bought 8 pens. He gave the seller 50 pounds and the seller gave him back 10 pounds as the rest.

What is the price of each pen ?

____

____

7 Mariam buys 21 toys. She has 4 boxes.

She wants to put 3 toys in each box.

How many more boxes does Mariam need ?

____

____

8 Mohammed bought 3 pizza slices of 9 pounds each.

He paid 30 pounds.

How much is the rest ?

____

____

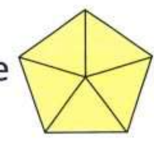
Sheet 6

Till lessons 1 & 2 - chapter 8

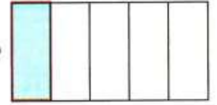
1 **Choose the correct answer.**

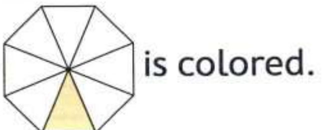
a. The shape is divided into ________

(4 equal parts **or** 5 unequal parts **or** 6 equal parts **or** 4 unequal parts)

b. The shape  is divided into ________ equal parts.

(4 **or** 5 **or** 6 **or** 3)

c. $\frac{\quad}{\quad}$ of the shape  is colored. ($\frac{1}{6}$ **or** $\frac{1}{5}$ **or** $\frac{1}{7}$ **or** $\frac{1}{4}$)

d. $\frac{\quad}{\quad}$ of the shape  is colored. ($\frac{1}{5}$ **or** $\frac{1}{6}$ **or** $\frac{1}{7}$ **or** $\frac{1}{8}$)

e. $8 \times 15 = 8 \times (5 + ______)$ (1 **or** 8 **or** 10 **or** 15)

2 **Complete.**

a. One whole = ________ fifths.

b. There are ________ fourths in one whole.

c. $48 \div ______ = 6$

d. The perimeter of the rectangle whose length is 8 cm, and width is 3 cm, is ________ cm.

3 **Draw a figure and divide it into sixths.**

4 **What is it ?**

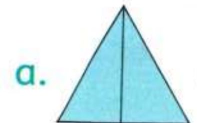
a. A fraction, its numerator is 1 and its denominator is 7. $\frac{\quad}{\quad}$

b. A fraction, its numerator is 1 and its denominator is 8. $\frac{\quad}{\quad}$

Sheet 7

Till lesson 3 - chapter 8

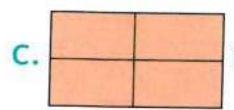
1 **Choose the correct answer.**

a.  is divided into ______

(2 equal parts **or** 2 unequal parts **or** 3 equal parts **or** 4 equal parts)

b. is divided into ______

(sixths **or** quarters **or** fifths **or** thirds)

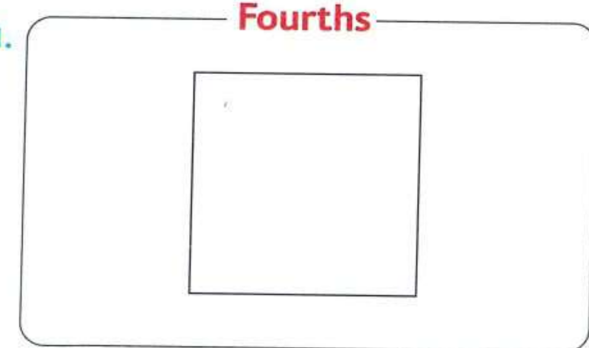
c.  is divided into ______

(halves **or** thirds **or** fourths **or** eighths)

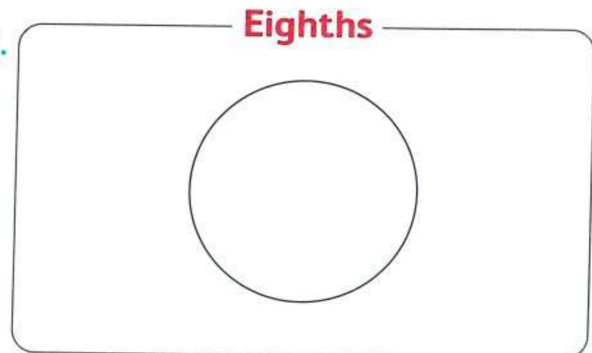
d. $3 \times$ ______ $= 27$ (3 **or** 4 **or** 6 **or** 9)

2 **Divide the shape into.**

a. **Fourths**



b. **Eighths**



3 **Answer the following.**

a. Rana wants to cut a piece of paper into equal pieces to share it with 5 of her friends.

Which fraction matches each piece ?

The fraction is ______

b. Karim has a bar of candy. He cut it into 2 halves, then he cut each half into 3 thirds.

Which fraction matches each piece ?

The fraction is ______

Sheet 8 Till lesson 4 - chapter 8

1 Choose the correct answer.

a. $\frac{1}{3} \bigcirc \frac{1}{5}$ (< or = or >)

b. ______ $< \frac{1}{6}$ ($\frac{1}{4}$ or $\frac{1}{2}$ or $\frac{1}{3}$ or $\frac{1}{10}$)

c. The square of perimeter 24 cm its side length = ______ cm. (4 or 5 or 6 or 8)

d. $\frac{1}{2} \bigcirc 1$ (< or = or >)

e. One whole has ______ sevenths. (6 or 4 or 2 or 7)

f. $5 \times 9 \times 8 =$ ______ (450 or 360 or 720 or 400)

2 Complete.

Answers may vary

a. $\frac{1}{2} >$ ______

b. $1 >$ ______

c. $\frac{1}{7} >$ ______

d. ______ $> \frac{1}{5}$

e. $\frac{1}{8} <$ ______

f. ______ $> \frac{1}{3}$

3 Find the length of the rectangle whose width is 4 cm, and perimeter is 18 cm.

______

______

4 Mazen bends a square piece of cardboard in halves.
He bends each half in half again. **Which of your fraction strips best matches this story ?**

______

______

Sheet 9

Till lesson 5 - chapter 8

1 Choose the correct answer.

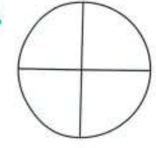
a. Which is bigger ? ($\frac{1}{3}$ of an apple **or** $\frac{1}{3}$ of a watermelon)

b. Which is longer ? ($\frac{1}{5}$ of a meter **or** $\frac{1}{5}$ of a centimeter)

c. Which is heavier ? ($\frac{1}{2}$ of a kilogram **or** $\frac{1}{2}$ of a gram)

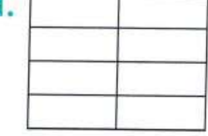
d. Which is more ? ($\frac{1}{4}$ of a milliliter **or** $\frac{1}{4}$ of a liter)

2 Name the equal parts of each whole.



b.

c.

d.


3 Put "> , < or =".

a. $\frac{1}{4}$ of a minute ◯ $\frac{1}{4}$ of an hour

b. $\frac{1}{8}$ of a pizza ◯ $\frac{1}{8}$ of a cookie

c. $\frac{1}{3}$ ◯ $\frac{1}{2}$

d. $\frac{1}{6}$ of 30 L.E. ◯ $\frac{1}{6}$ of 12 L.E.

e. Perimeter of a square of side length 3 cm ◯ Perimeter of a rectangle of length 3 cm and width 2 cm

4 Bassem had 217 L.E. He gave 167 L.E. to his brother. Then Bassem distributed the rest among his 5 friends equally.

How much money did each friend get ?

Sheet 10 Till lesson 6 - chapter 8

1 Choose the correct answer.

a. $1 =$ ______ ($\frac{1}{4}$ or $\frac{1}{2}$ or $\frac{1}{3}$ or $\frac{5}{5}$)

b. $30 \div$ ______ $= 10$ (3 or 10 or 30 or 15)

c. $7 \times 13 =$ ______ ($7 \times (10 \times 3)$ or $(7 \times 10) \times (7 \times 3)$ or $(7 \times 10) + (7 \times 3)$ or $(7 \times 10) + (7 + 3)$)

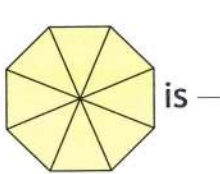
d. $\frac{10}{__} = 1$ (1 or 10 or 2 or 5)

e. One whole = ______ tenths. (25 or 1 or 20 or 10)

f. $1 \bigcirc \frac{1}{4}$ (> or < or =)

2 Complete.

a. $1 = \frac{16}{__}$

b. The fraction that shows the whole shape  is ______

c. $\frac{__}{24} = 1$

d. The perimeter of rectangle of length 8 cm and width 5 cm = ______ cm.

e. $\frac{4}{4} = \frac{3}{__}$

3 Answer the following.

a. Ayman has 24 pens, he wants to pack each 3 pens in a bag.
How many bags does he need ?

____

b. Maged ran $\frac{1}{4}$ of a kilometer, Hany ran $\frac{1}{10}$ of a kilometer.

Which one ran farther ?

____

Sheet 11

Till lessons 7 to 9 - chapter 8

1 Choose the correct answer.

a. $\frac{1}{3}$ of 15 ◯ $\frac{1}{8}$ of 32 (> or < or =)

b. $\frac{1}{8}$ ◯ $\frac{1}{6}$ (> or < or =)

c. $5 \times 7 = (5 \times 4) + (5 \times$ ______ $)$ (2 or 3 or 4 or 7)

d. $30 \div 5 =$ ______ (6 or 5 or 8 or 9)

e. $\frac{1}{9}$ of 63 = ______ (4 or 5 or 6 or 7)

2 Complete.

a. $\frac{1}{2}$ of 18 = ______

b. The perimeter of rectangle = $(L + W) \times$ ______

c. $1 = \frac{__}{17}$

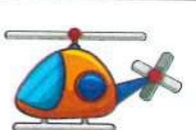
d. $24 \div$ ______ $= 6$

e. $\frac{1}{6}$ of a day = ______ hours

f. ______ $\times 2 = 16$

g. The perimeter of square = side length × ______

h. $\frac{__}{__}$ of the set are balls.



3 Answer the following.

a. Samy has 8 candies, he ate $\frac{1}{4}$ of them.

How many candies did Samy eat ?

______

b. Hanan has 35 L.E., she wants to divide the money among five of her friends equally.

How much money will each friend get ?

______

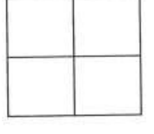
Assessment Chapter 8

1 Complete.

a. The fraction of white in Italy's flag is ______

b. $\frac{1}{3}$ of 12 is ______

c. The fraction of red in Indonesia's flag is ______

d. The equal parts of  is ______

2 Choose the correct answer.

a. $\frac{1}{7}$ ◯ $\frac{1}{3}$ (> **or** < **or** =)

b. $1 = \frac{__}{7}$ (5 **or** 1 **or** 7)

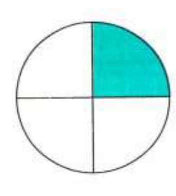
c. The number of fifths that make one whole = ______ (10 **or** 5 **or** 1)

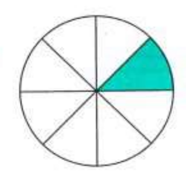
d. The equal parts of (hexagon) is ______ (thirds **or** sixths **or** eighths)

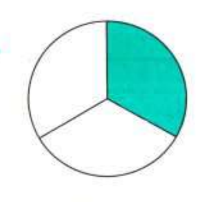
e. $\frac{1}{8}$ of 32 ◯ $\frac{1}{5}$ of 40 (> **or** < **or** =)

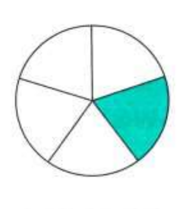
f. ______ > $\frac{1}{7}$ ($\frac{1}{8}$ **or** $\frac{1}{7}$ **or** $\frac{1}{3}$)

3 Write the unit fraction that represents the colored part.

a.  ______

b.  ______

c.  ______

d.  ______

4 Find each of the following.

a. $\frac{1}{4}$ of 24 = ______

b. $\frac{1}{2}$ of 18 = ______

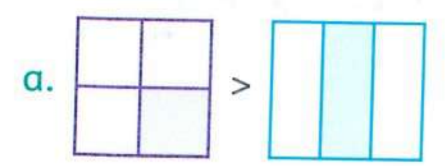
c. $\frac{1}{6}$ of 12 = ______

d. $\frac{1}{3}$ of 9 = ______

e. $\frac{1}{8}$ of 8 = ______

f. $\frac{1}{2}$ of 10 = ______

5 **Put (✓) to the correct statement or (✗) to the incorrect statement.**

a.  ( )

b. A quarter = $\frac{1}{3}$ ( )

c. $\frac{3}{3} = \frac{5}{5}$ ( )

d. $\frac{1}{5}$ of 25 = 5 ( )

e. $\frac{1}{3}$ of 18 = $\frac{1}{4}$ of 24 ( )

f. $8 \div 4 = \frac{1}{8}$ of 40 ( )

---

6 **Answer the following.**

a. If you divided 20 counters into fourths, how many counters will be in each group ?

____

b. Ahmed studies for $\frac{1}{8}$ of a day. How many hours does he study ?

____

---

7 **Circle the correct answer.**

a. Which is more ? (half of a watermelon **or** half of an apple)

b. Which is more ? (half of 10 L.E. **or** half of 100 L.E.)

---

8 Bassem has 18 sweets, he wants to divide them among three friends equally.

a. How many sweets will each friend get ?

____

b. What fraction of the whole would they each receive ?

____

Accumulative Assessment

Till chapter 8

1 Complete the following.

a. $(3 \times 5) \times 2 = (3 \times ______) \times 5$

b. $\frac{1}{5}$ of 20 is ______

c. $\frac{3}{3} = \frac{4}{__}$

d. ______ $\div 7 = 3$

e. The perimeter of square of side length 7 cm equals ______ cm.

2 Put (✓) to the correct statement or (✗) to the incorrect statement.

a. $\frac{1}{3} > \frac{1}{5}$ (   )

b. $\frac{1}{2}$ of a strawberry = half of orange. (   )

c. $5 \times 17 = (5 \times 1) + (5 \times 7)$ (   )

d. A fraction, its denominator is 8, its numerator is 1 is $\frac{1}{8}$ (   )

e. The perimeter of a rectangle is $(L + W) \times 4$ (   )

3 Choose the correct answer.

a. $9 \times ______ = 18$ (2 **or** 9 **or** 18)

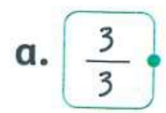
b. $\frac{1}{7}$ ◯ $\frac{1}{9}$ (> **or** < **or** =)

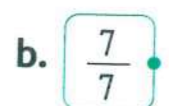
c. $\frac{1}{2}$ of 2 is ______ (4 **or** 2 **or** 1)

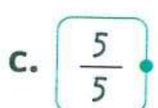
d. $24 \div ______ = 4$ (4 **or** 6 **or** 8)

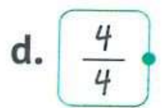
e. $6 \times 9 = (6 \times 3) + ______$ (6×9 **or** 6×3 **or** 6×6)

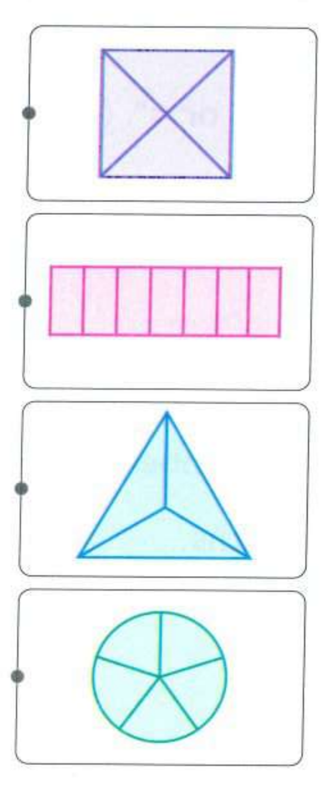
4 **Match.**

a. 

b. 

c. 

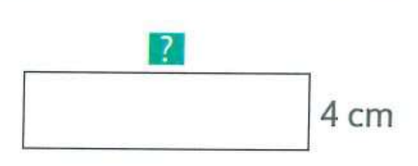
d. 



5 Find the side length of square of perimeter 12 cm.

____

6 Find the unknown side length using the perimeter of the opposite rectangle where the perimeter is 30 cm.



____

____

7 Ibrahim has 15 apples, he splits the apples evenly between 5 friends.

a. How many apples will each friend get ? __________

b. What fraction of the whole would each one receive ? __________

8 Marwan had 18 pounds and give away $\frac{1}{3}$ of them.

How many pounds did he give way ? __________

Sheet 12

Till lessons 1 & 2 - chapter 9

1 **Put "> , < or =". (you may use a number line)**

a. $\frac{1}{4} \bigcirc \frac{1}{7}$

b. $\frac{1}{2} \bigcirc \frac{1}{5}$

c. $\frac{1}{20} \bigcirc \frac{1}{10}$

d. $1 \bigcirc \frac{12}{12}$

e. $\frac{1}{8}$ of 48 $\bigcirc$ $\frac{1}{5}$ of 50

f. $3 \times 7 \bigcirc 40 \div 5$

2 **Draw a number line to show.**

a. Sevenths.

b. Ninths.

c. Tenths

3 **Answer the following.**

a. Mina wants to run $\frac{1}{5}$ of a kilometer everyday.

Draw a number line to show Mina's running.

How many days will Mina take to run a whole kilometer ? ____________

b. If you divide 30 counters into fifths.

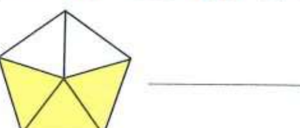
How many counters will be in each group ? ____________

Sheet 13 Till lessons 3 & 4 - chapter 9

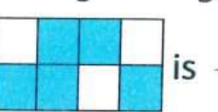
1 Choose the correct answer.

a. $\frac{1}{3}$ of 12 = ... (3 or 4 or 6 or 12)

b. The perimeter of the rectangle whose length is 6 cm and width is 4 cm equals .... cm. (10 or 20 or 24 or 28)

c. The fraction of the colored part of the shape is  ....

($\frac{1}{5}$ or $\frac{2}{5}$ or $\frac{3}{5}$ or $\frac{4}{5}$)

d. The fraction of the colored part of the shape  is ....

($\frac{5}{8}$ or $\frac{5}{7}$ or $\frac{5}{6}$ or $\frac{5}{5}$)

e. $\frac{3}{6}$ ◯ $\frac{4}{6}$ (> or < or =)

f. 1 = ... sixths. (6 or 8 or 9 or 10)

2 Represent each of the following fractions on the number line, then compare using (< , = or >).

a. $\frac{5}{6}$ ◯ $\frac{2}{6}$

0 ———————— 1

0 ———————— 1

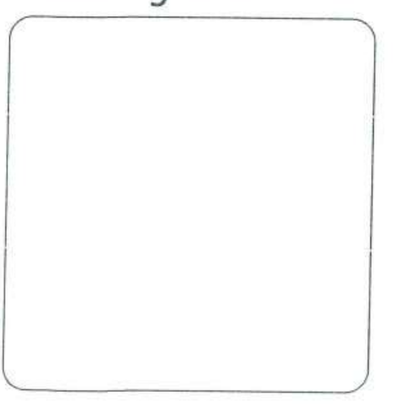
b. $\frac{2}{5}$ ◯ $\frac{4}{5}$

0 ———————— 1

0 ———————— 1

3 Answer the following.

a. Draw a shape and color $\frac{2}{5}$ of it.



b. Represent on the number line each of $\frac{3}{10}$, $\frac{6}{10}$.

0 ———————— 1

Sheet 14

Till lesson 5 - chapter 9

1 Put ">, < or =".

a. $\frac{4}{5}$ ◯ $\frac{4}{7}$ b. $\frac{3}{7}$ ◯ $\frac{5}{7}$ c. $\frac{8}{10}$ ◯ $\frac{8}{15}$ d. $\frac{14}{14}$ ◯ $\frac{20}{20}$

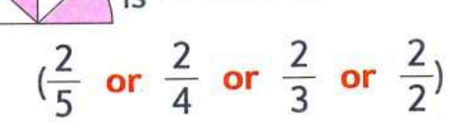
e. The perimeter of the square of side length 4 cm The perimeter of the rectangle of length 5 cm and width 3 cm

2 Choose the correct answer.

a. $\frac{2}{4}$ < .... ($\frac{2}{5}$ or $\frac{2}{3}$ or $\frac{2}{6}$ or $\frac{1}{2}$)

b. .... > $\frac{4}{18}$ ($\frac{1}{18}$ or $\frac{3}{18}$ or $\frac{4}{18}$ or $\frac{5}{18}$)

c. The fraction of the colored part of the shape is ....



($\frac{2}{5}$ or $\frac{2}{4}$ or $\frac{2}{3}$ or $\frac{2}{2}$)

d. $\frac{1}{6}$ of 30 = ... (6 or 5 or 4 or 8)

3 Put (✓) to the correct statement or (✗) to the incorrect statement.

a. $(3 \times 2) \times 4 = 3 \times (2 + 4)$ (   )

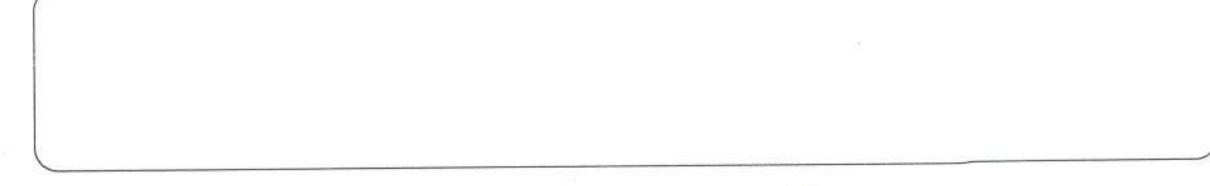
b. There are five fifths in a whole one. (   )

c. $\frac{5}{7} < \frac{5}{9}$ (   )

d. $\frac{10}{20} = 1$ (   )

4 Answer the following.

a. Draw a number line to show twelfths.



b. Sahar has 70 L.E. She wants to give her sister $\frac{1}{10}$ of the money.

How much money will her sister take ?

....

Sheet 15 Till lessons 6 & 7 - chapter 9

1 Choose the correct answer.

a. $\frac{7}{10} - \frac{5}{10} =$ ______ $(\frac{2}{10}$ or $\frac{2}{5}$ or $\frac{2}{2}$ or $\frac{2}{4})$

b. $\frac{5}{17} + \frac{2}{17} =$ ______ $(\frac{7}{17}$ or $\frac{2}{17}$ or $\frac{3}{17}$ or $\frac{7}{34})$

c. $\frac{6}{21} + \frac{7}{21} =$ ______ $(\frac{1}{21}$ or $\frac{10}{21}$ or $\frac{13}{42}$ or $\frac{13}{21})$

d. $\frac{5}{19}$ ◯ $\frac{5}{24}$ ($>$ or $<$ or $=$)

2 Complete.

a. $\frac{9}{16} - \frac{7}{16} =$ ______

b. $\frac{12}{20} - \frac{7}{20} =$ ______

c. $\frac{3}{16} + \frac{7}{16} =$ ______

d. $1 = \frac{___}{15}$

e. $1 - \frac{4}{9} =$ ______

f. $\frac{4}{12} + \frac{8}{12} =$ ______

g. $27 \div$ ______ $= 3$

h. ______ $\times 6 = 42$

i. $\frac{1}{5}$ of $15 =$ ______

j. $\frac{7}{9} -$ ______ $= \frac{1}{9}$

3 Put ">, < or =".

a. $\frac{10}{20} - \frac{7}{20}$ ◯ $\frac{5}{20}$

b. $\frac{3}{8}$ ◯ $\frac{1}{8} + \frac{2}{8}$

c. $\frac{2}{16} + \frac{4}{16}$ ◯ $\frac{13}{16} - \frac{11}{16}$

d. $\frac{9}{13} - \frac{4}{13}$ ◯ $\frac{5}{13} - \frac{1}{13}$

e. $\frac{12}{15} - \frac{7}{15}$ ◯ $\frac{1}{15} + \frac{4}{15}$

f. $\frac{13}{21} - \frac{6}{21}$ ◯ $\frac{3}{30} + \frac{4}{30}$

Sheet 16 Till lesson 8 - chapter 9

1 Choose the correct answer.

a. $\frac{1}{9} + \frac{6}{9} = ______$ $(\frac{7}{18}$ or $\frac{7}{9}$ or $\frac{5}{18}$ or $\frac{5}{9})$

b. $\frac{4}{5} - \frac{1}{5} = ______$ $(\frac{3}{5}$ or $\frac{5}{5}$ or $\frac{3}{10}$ or $\frac{5}{10})$

c. $\frac{7}{18} \bigcirc \frac{7}{24}$ $(>$ or $<$ or $=)$

d. $80 \div ______ = 10$ (8 or 5 or 10 or 80)

e. $6 \times 9 = (6 \times 6) + (6 \times ______)$ (2 or 3 or 6 or 9)

2 Complete.

a. $\frac{2}{18} + \frac{3}{18} = ______$

b. $\frac{8}{9} - \frac{7}{9} = ______$

c. $\frac{8}{12} + \frac{3}{12} = ______$

d. $1 - \frac{4}{7} = ______$

e. $\frac{1}{5} + \frac{2}{5} = ______$

f. $______ \times 7 = 28$

3 Answer the following.

a. Wael ate $\frac{1}{8}$ of a pie in one day. In the next day, he ate $\frac{3}{8}$ of this pie.

What fraction did Wael eat in all ?

____

b. Eman divided her toys into 6 sixths. She gave her brother $\frac{2}{6}$ of the toys.

What fraction of toys is left with Eman ?

____

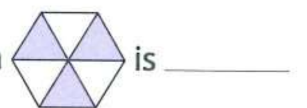
c. Nour studied Mathematics for $\frac{2}{5}$ of an hour, she studied Arabic for $\frac{3}{5}$ of an hour.

What subject did she spend less time studying ?

____

Assessment Chapter 9

1 Choose the correct answer.

a. The fraction of the colored part in  is ______ ($\frac{1}{3}$ or $\frac{3}{5}$ or $\frac{3}{6}$)

b. $\frac{3}{7} - \frac{2}{7} =$ ______ ($\frac{5}{7}$ or $\frac{4}{7}$ or $\frac{1}{7}$)

c. $\frac{3}{7}$ ◯ $\frac{3}{5}$ (> or < or =)

d. $\frac{5}{5} - \frac{3}{5} =$ ______ ($\frac{2}{3}$ or $\frac{2}{5}$ or $\frac{1}{5}$)

e. $\frac{3}{8}$ ______ $\frac{5}{8}$ (> or < or =)

2 Find the result.

a. $\frac{1}{5} + \frac{2}{5} =$ ______

b. $\frac{4}{8} + \frac{1}{8} =$ ______

c. $\frac{6}{7} - \frac{3}{7} =$ ______

d. $\frac{5}{9} - \frac{4}{9} =$ ______

e. $1 - \frac{1}{8} =$ ______

f. $\frac{7}{7} - \frac{9}{9} =$ ______

3 Complete.

a. $\frac{3}{7} + \frac{}{} = \frac{5}{7}$

b. $\frac{6}{9} - \frac{}{} = \frac{2}{9}$

c. $\frac{}{} + \frac{4}{10} = \frac{7}{10}$

d. $\frac{}{} - \frac{1}{5} = \frac{3}{5}$

e. $\frac{6}{11} = \frac{}{} - \frac{2}{11}$

f. $\frac{5}{8} = \frac{}{} - \frac{1}{8}$

4 A bag had $\frac{5}{6}$ cup of flour in it. Nader took $\frac{1}{6}$ cup from it.

How much of the flour is left ?

____

5 Divide the number line into eighths. Circle $\frac{5}{8}$.

6 Match.

a. $\frac{2}{7} + \frac{1}{7}$

b. $1 - \frac{7}{12}$

c. $\frac{5}{12} + \frac{4}{12}$

d. $\frac{5}{7} - \frac{1}{7}$

e. $\frac{8}{12} + \frac{3}{12}$

$\frac{6}{7} - \frac{2}{7}$

$\frac{3}{12} + \frac{6}{12}$

$\frac{7}{12} + \frac{4}{12}$

$\frac{6}{7} - \frac{3}{7}$

$\frac{4}{12} + \frac{1}{12}$

7 Hamza ate $\frac{1}{5}$ of his pizza at snack time and $\frac{3}{5}$ of it at lunch.

How much of his pizza did he eat in all?

____

____

Accumulative Assessment

Till chapter 9

1 Complete.

a. ______ $\times 6 = 42$

b. $5 \times 13 = (5 \times 3) + (5 \times$ ______ $)$

c. $\frac{1}{3}$ of $21 =$ ______

d. $1 = \frac{9}{____}$

e. $\frac{___}{___} - \frac{2}{5} = \frac{1}{5}$

f. The number of fourths that make one whole = ______

2 Put (✔) to the correct statement and (✘) to the incorrect statement.

a. $\frac{3}{7} + \frac{1}{7} = \frac{4}{7}$ ( )

b. $\frac{5}{12} > \frac{5}{11}$ ( )

c. Half of a minute = half of an hour. ( )

d. $(3 \times 2) \times 4 = 3 \times (4 \times 2)$ ( )

e. The perimeter of square whose side length is 7 cm = 28 cm. ( )

3 Choose the correct answer.

a. $\frac{4}{7} + \frac{___}{___} = \frac{6}{7}$ ($\frac{1}{7}$ or $\frac{2}{7}$ or $\frac{10}{7}$)

b. $\frac{5}{8} - \frac{___}{___} = \frac{1}{8}$ ($\frac{4}{8}$ or $\frac{6}{8}$ or 4)

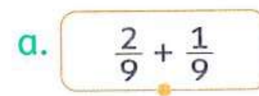
c. $3 \times 17 =$ ______ ($3 \times (10 + 7)$ or $3 \times (1 + 7)$ or $3 + (10 \times 7)$)

d. ______ $\div 3 = 6$ (2 or 18 or 21)

e. $\frac{2}{17}$ ◯ $\frac{5}{17}$ ($>$ or $<$ or $=$)

f. $\frac{5}{6}$ ◯ $\frac{5}{10}$ ($>$ or $<$ or $=$)

4 **Match.**

a.  $\frac{2}{9} + \frac{1}{9}$

b. $\frac{5}{9} + \frac{1}{9}$

c. $\frac{1}{9} + \frac{1}{9}$

d. $\frac{2}{9} + \frac{3}{9}$

$1 - \frac{3}{9}$ $\qquad$ $\frac{7}{9} - \frac{4}{9}$ $\qquad$ $\frac{7}{9} - \frac{2}{9}$ $\qquad$ $\frac{7}{9} - \frac{5}{9}$

---

5 Norhan had 20 meters of cloth. She made 3 dresses of the same size and 2 meters of cloths were left.

How many meters of cloth did each dress take ?

____

---

6 Find the perimeter of the rectangle whose length is 7 cm and width is 4 cm.

____

---

7 The water bottle of Bassem was $\frac{7}{8}$ full. Bassem drank $\frac{3}{8}$ of the water bottle.

How much water was left in the bottle ?

____

---

8 Find the side length of the square whose perimeter is 12 cm.

____

---

9 Write the fact family of the numbers 3 , 15 , and 5

____

____

Sheet 17

Till lesson 1 - chapter 10

1 Choose the correct answer.

a. $\frac{1}{2}$ = ... ($\frac{2}{5}$ or $\frac{3}{7}$ or $\frac{5}{10}$ or $\frac{2}{6}$)

b. $\frac{2}{5}$ > .... ($\frac{4}{5}$ or $\frac{2}{3}$ or $\frac{3}{5}$ or $\frac{2}{8}$)

c. $\frac{7}{12} + \frac{2}{12}$ = ... ($\frac{9}{12}$ or $\frac{9}{24}$ or $\frac{5}{12}$ or $\frac{5}{24}$)

d. $\frac{\dots}{14} = \frac{1}{2}$ (6 or 7 or 1 or 14)

e. $1 = \frac{8}{\dots}$ (1 or 2 or 4 or 8)

f. $\frac{1}{3}$ of 24 = ... (3 or 4 or 6 or 8)

2 Complete.

a. $\frac{1}{2}$ is equivalent to .... eighths.

b. $\frac{1}{2}$ is equivalent to .... tenths.

c. $\frac{1}{2}$ is equivalent to .... sixths.

d. $\frac{9}{18} - \frac{4}{18}$ = ...

e. $\frac{1}{2} = \frac{\dots}{8} = \frac{9}{\dots} = \frac{\dots}{16}$

f. .... ÷ 7 = 7

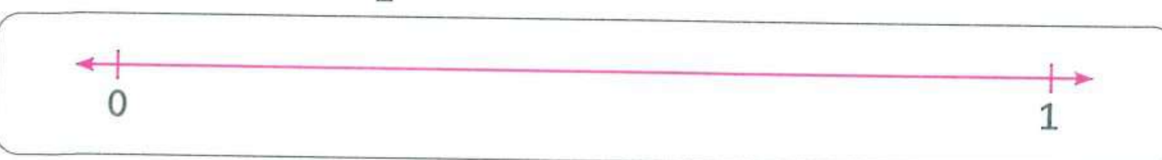
3 Answer the following.

a. Nada has a bar of chocolate, she ate $\frac{1}{6}$ of the bar and her brother ate $\frac{2}{6}$ of the bar.

What fraction shows what they both did eat ?

....

b. Draw a number line and divide it into twelfths, then mark the fraction which is equivalent to $\frac{1}{2}$.



Sheet 18 Till lessons 2 & 3 - chapter 10

1 Choose the correct answer.

a. $\frac{1}{5} =$ ______ ($\frac{1}{10}$ or $\frac{2}{8}$ or $\frac{3}{15}$ or $\frac{4}{24}$)

b. ______ $> \frac{8}{18}$ ($\frac{4}{9}$ or $\frac{2}{9}$ or $\frac{3}{8}$ or $\frac{9}{18}$)

c. $\frac{5}{9} = \frac{20}{___}$ (32 or 36 or 35 or 45)

d. $\frac{12}{19} - \frac{9}{19} =$ ______ ($\frac{4}{19}$ or $\frac{2}{19}$ or $\frac{3}{19}$ or $\frac{1}{19}$)

e. $10 \times 12 = 10 \times ($______$)$ (10×2 or $10 + 2$ or $10 - 2$ or $6 + 5$)

f. $2 \times$ ______ $= 18$ (6 or 7 or 8 or 9)

2 Complete.

a. $\frac{1}{2} = \frac{___}{20}$

b. $\frac{3}{7} = \frac{12}{___}$

c. ______ $\div 9 = 6$

d. $\frac{2}{6} + \frac{1}{6} =$ ______

e. $\frac{6}{___} = \frac{36}{48}$

f. $\frac{1}{4}$ of $20 =$ ______

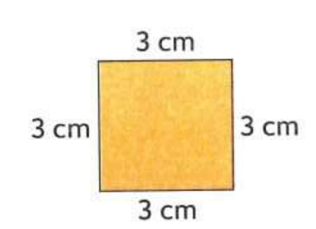
3 Discover the pattern, then complete.

a. $\frac{2}{7} = \frac{6}{___} = \frac{___}{28} = \frac{10}{___}$

b. $\frac{___}{3} = \frac{4}{6} = \frac{8}{___} = \frac{16}{___}$

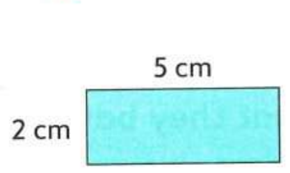
4 Find the perimeter of each of the following.

a.



Perimeter = ______

b.



Perimeter = ______

c.

7 cm

1 cm

Perimeter = ______

5 A bag had $\frac{4}{5}$ cup of flour in it. Sameh took $\frac{3}{5}$ cup of it.

How much of the flour is left ?

____

Sheet 19

Till lesson 4 - chapter 10

1 Choose the correct answer.

a. $\frac{1}{6}$ = ... ($\frac{5}{24}$ or $\frac{4}{20}$ or $\frac{5}{30}$ or $\frac{1}{12}$)

b. $\frac{14}{35} = \frac{2}{....}$ (7 or 5 or 14 or 15)

c. $\frac{5}{10}$ = ... ($\frac{1}{5}$ or $\frac{1}{4}$ or $\frac{1}{3}$ or $\frac{1}{2}$)

d. $\frac{7}{9} = \frac{....}{45}$ (5 or 21 or 35 or 42)

e. $\frac{2}{7} + \frac{1}{7}$ = ... ($\frac{1}{7}$ or $\frac{2}{7}$ or $\frac{3}{7}$ or $\frac{4}{7}$)

f. $\frac{3}{10}$ < .... ($\frac{3}{10}$ or $\frac{2}{10}$ or $\frac{3}{11}$ or $\frac{3}{5}$)

2 Complete.

a. $0 = \frac{....}{8}$

b. $\frac{4}{5} = \frac{12}{....}$

c. $\frac{8}{9} - \frac{1}{9}$ = ...

d. $1 = \frac{7}{....}$

e. $\frac{18}{36} = \frac{....}{6}$

f. .... × 8 = 64

g. The side length of the square whose perimeter is 12 cm is ....

h. The fraction that represents the red apple is ....

3 Answer the following.

a. Discover the pattern, then complete.

$\frac{3}{5} = \frac{9}{....} = \frac{....}{20} = \frac{21}{....}$

b. Draw a number line and divide it into tenths and mark the fraction which is equivalent to $\frac{3}{5}$.

Sheet 20 Till lesson 5 - chapter 10

1 Choose the correct answer.

a. $\frac{3}{8} = ____$ $\left(\frac{15}{32} \text{ or } \frac{15}{24} \text{ or } \frac{12}{24} \text{ or } \frac{15}{40}\right)$

b. $\frac{2}{9} = \frac{14}{____}$ (18 or 63 or 45 or 54)

c. $\frac{20}{30} = \frac{____}{6}$ (4 or 5 or 6 or 7)

d. $\frac{1}{2} = ____$ $\left(\frac{7}{14} \text{ or } \frac{6}{16} \text{ or } \frac{5}{15} \text{ or } \frac{8}{18}\right)$

e. $7 \times 13 = (7 \times 10) + (7 \times ____)$ (3 or 10 or 30 or 13)

f. $80 \div ____ = 10$ (6 or 8 or 10 or 80)

2 Complete.

a. $\frac{3}{9} + \frac{5}{9} = ____$

b. $\frac{____}{21} = \frac{2}{7}$

c. $5 \times ____ = 5 \times 1 + 5 \times 7$

d. The perimeter of the square of side lenght 5 cm is ____ cm.

e. $\frac{1}{3}$ of $12 = ____$

f. $\frac{1}{2}$ is equivalent to ____ tenths

3 Answer the following.

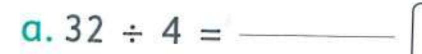
Amgad and Marwan have two bars of chocolate of the same size. Amgad divided his bar into ninths and ate $\frac{6}{9}$ of it. Marwan divided his bar into twelfths and ate the same amount as Amgad.

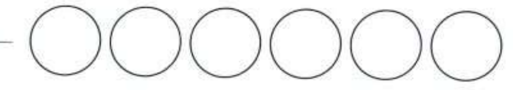
What fraction of Marwan's bar does show the amount he ate ?

____

Sheet 21 Till lessons 6 & 7 - chapter 10

1 **Complete the model, then choose the correct answer.**

a. $32 \div 4 =$ ______  (4 **or** 6 **or** 8 **or** 10)

b. $24 \div 6 =$ ______  (4 **or** 5 **or** 3 **or** 8)

c. $27 \div 3 =$ ______ (9 **or** 5 **or** 4 **or** 3)

d. $40 \div 5 =$ ______ (5 **or** 6 **or** 7 **or** 8)

e. $36 \div 4 =$ ______ (4 **or** 6 **or** 9 **or** 12)

2 **Complete.**

Answers may vary

a. $\frac{1}{2} = \frac{__}{__}$

b. $\frac{2}{7} < \frac{2}{__}$

c. $\frac{4}{7} = \frac{__}{__}$

d. $\frac{__}{__} = \frac{8}{48}$

e. $\frac{6}{10} = \frac{__}{__}$

f. $\frac{1}{3} > \frac{__}{__}$

3 **Use parentheses. Find the product.**

a. $4 \times 3 \times 1$

= ______

b. $2 \times 3 \times 6$

= ______

4 A father wants to divide 21 L.E. among his 3 children.

How much money will each child take ?

21

Each child will take = ______ ÷ ______ = ______ L.E.

Sheet 22 Till lesson 8 - chapter 10

1 Choose the correct answer.

a. If $3 \times 9 = 27$, then $9 \times$ ______ $= 27$ (3 **or** 2 **or** 4 **or** 9)

b. If $56 \div 7 = 8$, then ______ $\times 8 = 56$ (8 **or** 7 **or** 9 **or** 6)

c. $\frac{3}{10} =$ ______ ($\frac{6}{30}$ **or** $\frac{10}{30}$ **or** $\frac{13}{19}$ **or** $\frac{9}{30}$)

d. If $5 \times 7 = 35$, then $35 \div 5 =$ ______ (7 **or** 6 **or** 8 **or** 5)

e. $\frac{5}{6} - \frac{1}{6} =$ ______ ($\frac{4}{6}$ **or** $\frac{6}{6}$ **or** $\frac{4}{8}$ **or** $\frac{5}{6}$)

f. The length of the rectangle whose width is 3 m and perimeter is 14 m is ______ m. (3 **or** 4 **or** 11 **or** 12)

2 Complete.

a. $\frac{18}{20} = \frac{___}{10}$

b. If $6 \times 10 = 60$, then $60 \div$ ______ $= 6$

c. $\frac{2}{8} = \frac{12}{___}$

d. If $72 \div 9 = 8$, then $8 \times$ ______ $= 72$

3 Write the fact family for each of.

a. 3 , 8 , 24

______

______

______

______

b. 6 , 7 , 42

______

______

______

______

Assessment Chapter 10

1 Complete the following.

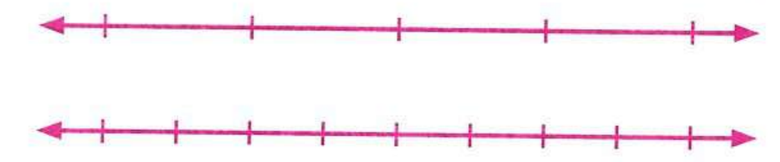
a. $\frac{3}{5} = \frac{__}{25} = \frac{9}{__}$

b. $\frac{1}{2} = \frac{4}{__} = \frac{__}{12}$

c. $\frac{5}{7} = \frac{15}{__} = \frac{__}{14}$

d. $\frac{1}{3} = \frac{__}{6} = \frac{3}{__}$

e. From the opposite number line, $\frac{3}{4} =$ ______



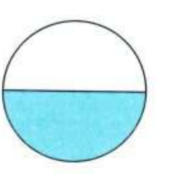
2 Choose the correct answer.

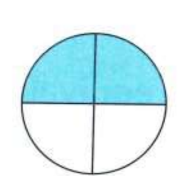
a. $\frac{2}{7} =$ ______ ($\frac{4}{21}$ or $\frac{4}{14}$ or $\frac{2}{3}$)

b. $\frac{2}{3}$ and $\frac{4}{6}$ are ______ (equivalent or not equivalent)

c. Using opposite model

$\frac{1}{2} =$ ______ ($\frac{1}{3}$ or $\frac{1}{4}$ or $\frac{2}{4}$)



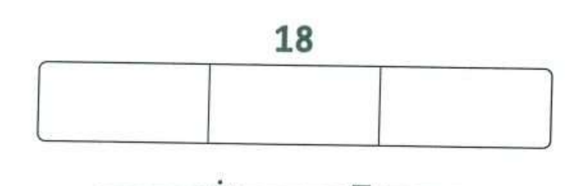


d. $\frac{4}{6} = \frac{2}{__}$ (2 or 3 or 6)

3 Nermin has 18 eggs and wants to put them equally in 3 plates.

How many eggs are there in each plate ?

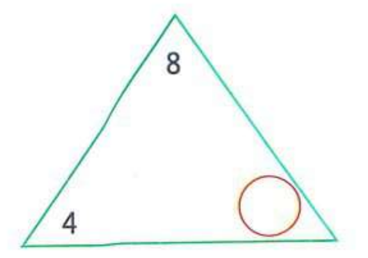
"Draw to show the division problem in a bar model"



______ ÷ ______ = ______

The quotient is ______

4 Find the missing factor and write four numbers sentences of fact family.



____ × ____ = ____ | ____ ÷ ____ = ____

____ × ____ = ____ | ____ ÷ ____ = ____

---

5 Look for a pattern. Complete the next three fractions and describe the pattern.

a. $\frac{1}{4}$, $\frac{2}{8}$, $\frac{3}{12}$, $\frac{4}{__}$, $\frac{5}{__}$, $\frac{6}{__}$

Description of the pattern : ______________________________

____

b. $\frac{2}{3}$, $\frac{4}{6}$, $\frac{6}{9}$, $\frac{__}{12}$, $\frac{__}{15}$, $\frac{__}{18}$

Description of the pattern : ______________________________

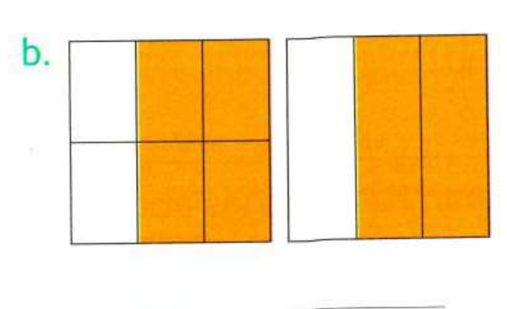
---

6 Write if the fractions are equivalent or not equivalent.

a.

____

b.



____

---

7 Write 2 different equivalent fractions to each of the following.

a. $\frac{1}{2} = \frac{__}{__} = \frac{__}{__}$

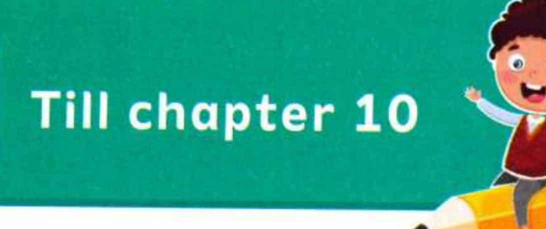
b. $\frac{4}{5} = \frac{__}{__} = \frac{__}{__}$

c. $\frac{2}{3} = \frac{__}{__} = \frac{__}{__}$

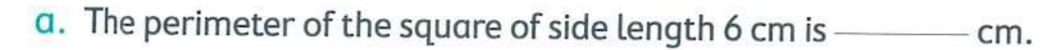
d. $\frac{1}{4} = \frac{__}{__} = \frac{__}{__}$

Accumulative Assessment

Till chapter 10



1 Complete.



a. The perimeter of the square of side length 6 cm is ________ cm.

b. $\frac{1}{3}$ of 15 = ________

c. $\frac{3}{5} = \frac{__}{10} = \frac{9}{__} = \frac{12}{__}$

d. $7 \times 11 = 7 \times (10 +$ ________ $)$

e. $\frac{7}{10} - \frac{1}{10} =$ ________

2 Put (✓) to the correct statement or (✗) to the incorrect statement.

a. $\frac{2}{3} = \frac{10}{15}$ (   )

b. $5 \div 5 = 0$ (   )

c. Number of thirds in one whole is 1 (   )

d. $\frac{5}{7} + \frac{2}{7} = 1$ (   )

e. The perimeter of a rectangle whose length is 7 cm and width is 5 cm is 35 cm. (   )

3 Choose the correct answer.

a. $\frac{2}{5} + \frac{1}{5}$ ◯ $\frac{4}{5} - \frac{1}{5}$ (> **or** < **or** =)

b. $\frac{3}{4} = \frac{12}{__}$ (12 **or** 16 **or** 20)

c. ________ $\times 7 = 28$ (3 **or** 4 **or** 6)

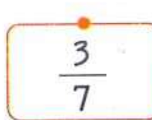
d. $\frac{4}{12} =$ ________ ($\frac{1}{2}$ **or** $\frac{1}{4}$ **or** $\frac{1}{3}$)

e. The fraction of the colored part in is ________ ($\frac{3}{6}$ **or** $\frac{3}{8}$ **or** $\frac{1}{2}$)

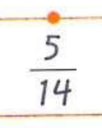
4 **Match.**

a.	b.	c.	d.
$\frac{2}{7}$ is equivalent to ______	$\frac{2}{14}+\frac{3}{14}$	$\frac{3}{14}>$ ______	$\frac{6}{7}-\frac{3}{7}$

$\frac{1}{14}$



$\frac{4}{14}$



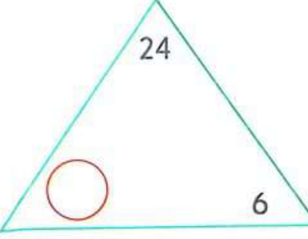
5 Find the missing factor in the fact family, then write the four number sentences of the fact family.

______

______

______

______



6 Ahmed brought $\frac{4}{7}$ of a candy bar from the supermarket. He gave $\frac{2}{7}$ of the candy bar to his friend. **How much does he have left ?**

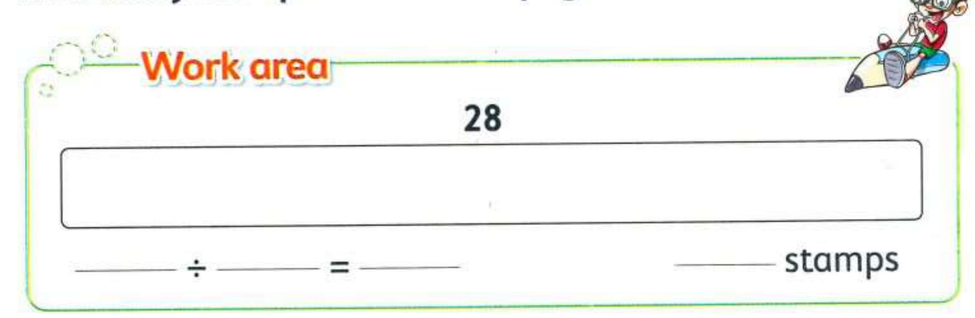
______

7 Find the side length of the square whose perimeter is 36 cm.

______

8 Nourhan has 28 stamps. She put stamps on 4 pages equally.

How many stamps are on each page ?



Sheet 23 Till lesson 1 - chapter 11

1 Choose the correct answer.

a. $3 \times 8 =$ ________ (12 **or** 32 **or** 24 **or** 28)

b. $1 = \frac{14}{___}$ (1 **or** 2 **or** 7 **or** 14)

c. $4 \times 15 =$ ________ (60 **or** 19 **or** 44 **or** 24)

d. $\frac{3}{10} + \frac{5}{10} =$ ________ ($\frac{8}{20}$ **or** $\frac{8}{10}$ **or** $\frac{2}{10}$ **or** $\frac{2}{20}$)

e. $\frac{1}{2}$ of 12 ◯ $\frac{1}{6}$ of 36 (> **or** < **or** =)

f. $\frac{3}{5} >$ ________ ($\frac{4}{5}$ **or** $\frac{3}{3}$ **or** $\frac{3}{7}$ **or** 1)

2 Complete.

a. $7 \times 0 =$ ________

b. $6 \times 5 =$ ________

c. $\frac{3}{5} = \frac{___}{20}$

d. $9 \times 11 =$ ________

e. $\frac{8}{14} - \frac{6}{14} = \frac{___}{___}$

f. $63 \div$ ________ $= 9$

3 Answer the following.

a. I am an odd number between 32 and 36. One of my factors is 5.

What number am I ?

____

b. If you double the digit in the Ones place, you will get the digit in the tens place, I am the product of two factors one of them is 9.

What number am I ?

____

Sheet 24

Till lessons 2 to 4 - chapter 11

1 Choose the correct answer.

a. $5 \times$ ______ $= 40$ (8 **or** 6 **or** 4 **or** 10)

b. ______ $\times 7 = 21$ (5 **or** 4 **or** 3 **or** 2)

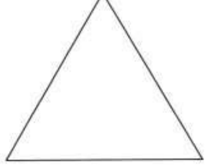
c. ______ $\div 8 = 6$ (40 **or** 42 **or** 44 **or** 48)

d. $1 = \frac{6}{___}$ (1 **or** 6 **or** 8 **or** 12)

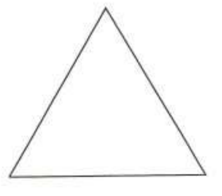
---

2 Determine the missing number in each equation below. Use fact family triangle to solve.

a. ______ $\div 4 = 7$



b. ______ $\times 3 = 21$



---

3 Answer the following.

a. Omar bought 8 pens for 64 L.E.

What is the price of each pen ?

______

b. There are 10 packets, each packet has 7 toys.

How many toys are there in all ?

______

---

4 Create your own story problem to match the equation, then solve it.

a. $5 \times 8 =$ ______

______

______

______

______

b. $42 \div 6 =$ ______

______

______

______

______

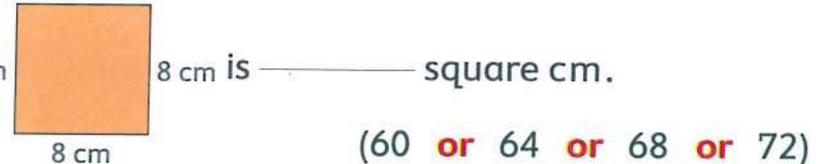
Sheet 25 Till lesson 5 - chapter 11

1 **Choose the correct answer.**

a. The perimeter of the shape

is ________ cm.

(18 **or** 14 **or** 16 **or** 20)

b. The area of the shape 

is ________ square cm.

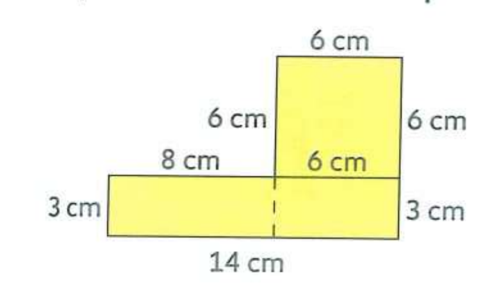
(60 **or** 64 **or** 68 **or** 72)

c. $28 \div$ ________ $= 7$ (3 **or** 4 **or** 5 **or** 7)

d. $\frac{3}{7}$ ◯ $\frac{3}{8}$ (> **or** < **or** =)

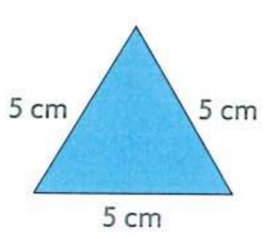
2 **Complete.**

a. The perimeter of the shape



is ________ cm.

b. The perimeter of the shape



is ________ cm.

c. ________ $\times 6 = 24$

d. $\frac{7}{9} - \frac{__}{__} = \frac{2}{9}$

3 **Draw.**

a. A triangle of perimeter 21 cm and label its sides.

Answer may vary

b. A square of perimeter 20 cm.

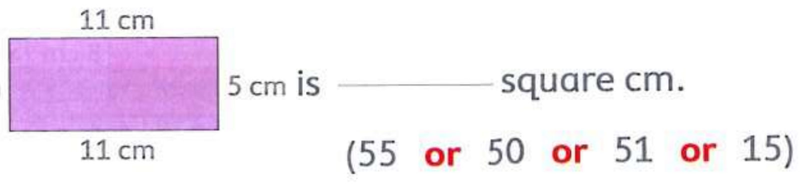
Sheet 26 Till lesson 6 - chapter 11

1 Choose the correct answer.

a. If the area of a rectangle is 48 square cm and its width is 6 cm, then its length is ______ cm. (9 **or** 14 **or** 28 **or** 8)

b. If the area of a rectangle is 28 square cm and its length is 7 cm, then its perimeter is ______ cm. (4 **or** 11 **or** 22 **or** 14)

c. The area of the shape



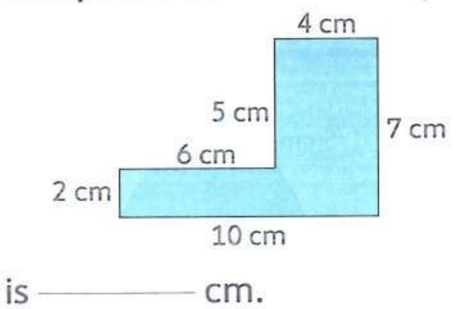
is ______ square cm. (55 **or** 50 **or** 51 **or** 15)

d. The perimeter of the shape

is ______ cm. (18 **or** 36 **or** 12 **or** 15)

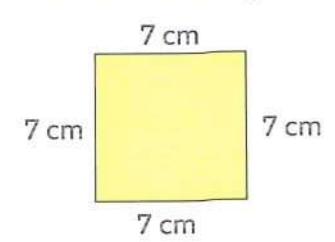
2 Complete.

a. The perimeter of the shape



is ______ cm.

b. The area of the shape



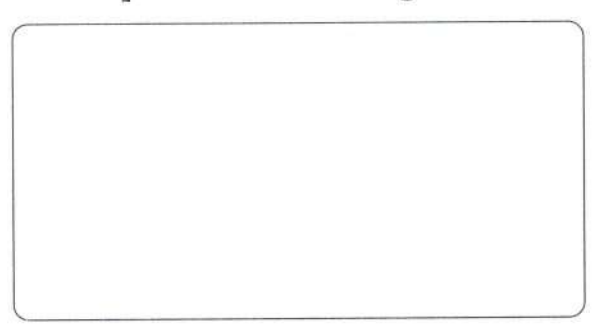
is ______ square cm.

c. ______ $\div 8 = 10$

d. $1 - \frac{3}{7} =$ ______

3 Answer the following.

a. Draw a rectangle of area 18 square cm and length 6 cm.



b. The water bottle of Judy was $\frac{7}{8}$ full. Judy drank $\frac{5}{8}$ of the bottle.

How much of the water was left in the bottle ?

______

Assessment Chapter 11

1 Choose the correct answer.

a. $7 \times$ ______ $= 7$ (49 **or** 0 **or** 1 **or** 7)

b. $24 \div$ ______ $= 3$ (12 **or** 6 **or** 4 **or** 8)

c. ______ $\div 9 = 2$ (11 **or** 18 **or** 7 **or** 10)

d. ______ $\times 4 = 28$ (5 **or** 6 **or** 7 **or** 8)

e. The perimeter of the opposite figure is ______ cm. (16 **or** 20 **or** 22 **or** 26)

6 cm

5 cm

f. The total area of the opposite figure is ______ square cm. (25 **or** 50 **or** 80 **or** 100)

5 cm

2 Find the result.

a. $2 \times 9 =$ ______	b. $10 \times 4 =$ ______	c. $12 \times 4 =$ ______
d. $5 \times 5 =$ ______	e. $7 \times 7 =$ ______	f. $4 \times 1 =$ ______
g. $3 \times 4 =$ ______	h. $9 \times 11 =$ ______	i. $8 \times 7 =$ ______
j. $12 \times 1 =$ ______	k. $6 \times 0 =$ ______	l. $5 \times 11 =$ ______
m. $6 \times 8 =$ ______	n. $9 \times 9 =$ ______	o. $3 \times 6 =$ ______

3 **Compare the following products using "> , < or =".**

a. 5 × 8	◯	9 × 9	b. 4 × 3	◯	6 × 2
c. 10 × 9	◯	8 × 3	d. 2 × 10	◯	10 × 4
e. 5 × 1	◯	1 × 5	f. 4 × 4	◯	5 × 5

4 **Solve the following story problems.**

a. Mahmoud saves 10 pounds everyday. How much money does Mahmoud save in a week ?

____

____

b. Fatma has 30 crayons. She put the crayons into boxes. Each box can hold 6 crayons.
How many boxes will she need ?

____

____

c. Mohamed distributed 27 marbles equally among his 3 children. How many marbles did each child get ?

____

____

d. Rana has 5 bags. Each bag contains 8 balls. How many balls are there in all bags ?

____

____

5 **Calculate the area and the perimeter of the opposite complex shape.**

____

____

____

2 cm
6 cm
3 cm
11 cm
5 cm
5 cm

6 **Calculate the perimeter of the opposite rectangle.**

____

____

____

Area = 15 square cm
5 cm

Accumulative Assessment

Till chapter 11

1 Complete.

a. ______ $\div 2 = 8$

b. $\frac{7}{9} = \frac{\quad}{27}$

c. There are ______ tenths in 1 whole.

d. $2 \times 6 = 2 \times (3 + \text{______})$

e. $\frac{3}{5} + \frac{1}{5} =$ ______

f. $\frac{2}{3} = \frac{\quad}{6} = \frac{6}{\quad}$

2 Put (✓) to the correct statement or (✗) to the incorrect statement.

a. $\frac{3}{5}$ is read as five thirds. (   )

b. The area of a rectangle = length × width. (   )

c. $\frac{4}{7} = \frac{12}{14}$ (   )

d. The perimeter of a square = side length × side length. (   )

e. $\frac{1}{4}$ of 20 is 5 (   )

3 Choose the correct answer.

a. $1 - \frac{3}{8} =$ ______ ($\frac{7}{8}$ or $\frac{5}{8}$ or $\frac{4}{8}$ or $\frac{1}{8}$)

b. $\frac{1}{2} \bigcirc \frac{1}{7}$ (> or < or =)

c. $2 \times 5 \times 6 =$ ______ (2×20 or 2×30 or 5×18 or 2×25)

d. $\frac{4}{9} + \frac{\quad}{9} = \frac{7}{9}$ (1 or 2 or 3 or 4)

e. $5 \times 8 \bigcirc 3 \times 10$ (> or < or =)

e. The perimeter of square of side length 4 cm is ______ cm. (4 or 8 or 16 or 32)

4 Find.

a. $1 \times 4 =$ ______

b. $5 \times 10 =$ ______

c. $8 \times 2 =$ ______

d. $3 \times 3 =$ ______

e. $3 \times 5 =$ ______

f. $9 \times 3 =$ ______

5 Ahmed distributed 24 marbles equally among his 3 children.

How many marbles did each child get ?

____

____

____

____

---

6 Calculate the perimeter and the area of the opposite figure.

____

____

3 cm

3 cm

7 cm

7 cm

4 cm

10 cm

---

7 A rectangle of area 40 square cm and its width 8 cm. Find its length.

____

____

---

8 Salma needs $\frac{4}{5}$ cup of milk to make pancakes. She only has $\frac{1}{5}$ cup of milk.

How much more milk does she need ?

____

____

---

9 Find the missing factor in the following fact family and write four number sentences of the fact family.

____

____

____

____

56

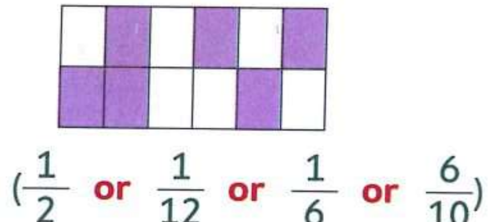
◯ 8

Sheet 27

Till lesson 1 - chapter 12

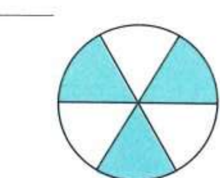
1 **Choose the correct answer.**

a. The fraction which represents the colored part in the figure is ______



($\frac{1}{2}$ or $\frac{1}{12}$ or $\frac{1}{6}$ or $\frac{6}{10}$)

b. The fraction which represents the colored part in the figure is ______



($\frac{1}{2}$ or $\frac{1}{3}$ or $\frac{2}{3}$ or $\frac{1}{6}$)

c. $2 \times$ ______ $= 20$

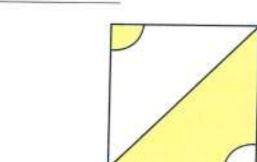
(6 or 8 or 10 or 12)

d. ______ $\div 9 = 3$

(18 or 12 or 24 or 27)

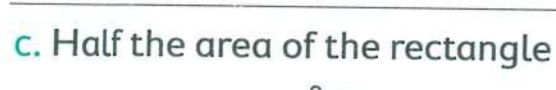
2 **Complete.**

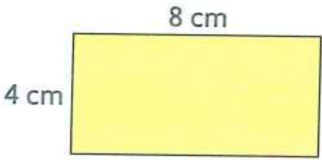
a. The fraction which represents the colored part of the figure is ______



b. The area of a square of side length 9 cm is ______ square cm.

c. Half the area of the rectangle





is ______ square cm.

d. Half the area of the rectangle whose length is 12 cm and width is 7 cm = ______ square cm.

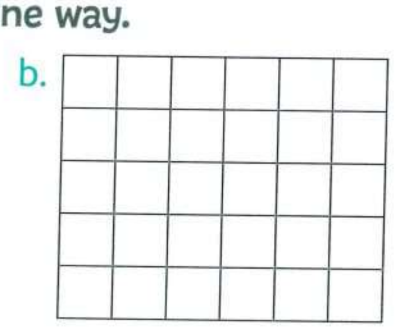
e. $\frac{3}{7} = \frac{12}{___}$

f. $1 = \frac{___}{10}$

3 **Color half of each figure using non-routine way.**

a.

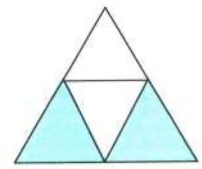
b.



Sheet 28 Till lesson 2 - chapter 12

1 Choose the correct answer.

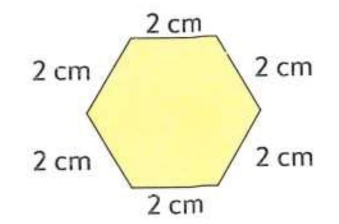
a. The fraction which represents the colored part in the figure



is ______

($\frac{1}{4}$ **or** $\frac{2}{5}$ **or** $\frac{1}{2}$ **or** $\frac{2}{2}$)

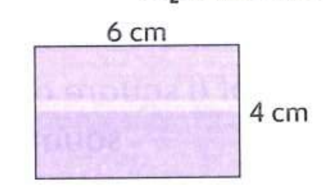
b. The perimeter of the figure



is ______ cm.

(10 **or** 6 **or** 4 **or** 12)

c. Half the area of the rectangle is ______ square cm.



(12 **or** 24 **or** 18 **or** 9)

d. $\frac{3}{7}$ ☐ $\frac{5}{7}$ (> **or** < **or** =)

e. $1 - \frac{2}{9} =$ ______

($\frac{1}{9}$ **or** $\frac{2}{9}$ **or** $\frac{7}{9}$ **or** $\frac{8}{9}$)

2 Complete.

a. A rectangle of area 40 square cm and width 5 cm, then the length is ______ cm.

b. $\frac{18}{20} = \frac{9}{__}$

c. ______ $\times 6 = 42$

d. $81 \div$ ______ $= 9$

e. $0 = \frac{__}{8}$

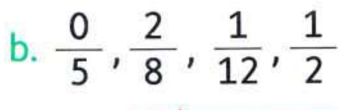
f. The perimeter of a rectangle whose length is 6 cm and width is 4 cm is ______ cm.

3 Put the following fractions on the number line.

a. $\frac{1}{4}, \frac{3}{4}, \frac{4}{6}, \frac{6}{6}$

0 ———————————————— 1

b. $\frac{0}{5}, \frac{2}{8}, \frac{1}{12}, \frac{1}{2}$



0 ———————————————— 1

Sheet 29

Till lesson 3 - chapter 12

1 **Choose the correct answer.**

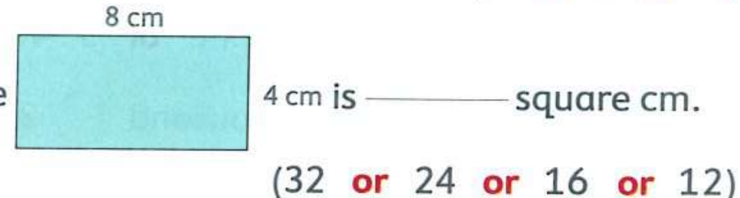
a. The value of the digit 4 in the number 34,622 is ________

(400 **or** 4,000 **or** 4 tens **or** 40,000)

b. The greatest number formed from the digits 7 , 0 , 2 , 1 , 4 , 6 is ________

(102,467 **or** 706,421 **or** 746,120 **or** 764,210)

c. 246,200 ◯ 89,751 (> **or** < **or** =)

d. Half the area of the rectangle 

is ________ square cm.

(32 **or** 24 **or** 16 **or** 12)

---

2 **Complete.**

a. Two hundred thousand, four hundred ten in standard form is ________

b. 561,348 = ________ + ________ + ________ + ________ + ________ + ________

c. The least number formed from the digits 3 , 8 , 6 , 2 , 5 , 1 is ________

d. The place value of the digit 9 in the number 902,433 is ________

---

3 **Answer the following.**

a. Arrange the following numbers from least to greatest.

75,600 , 750,600 , 675,000 , 705,006

The order is : ________ , ________ , ________ , ________

b. Rabab has 42 marbles. She put them in 7 bags equally.

How many marbles are in each bag ?

____

____

Sheet 30

Till lesson 4 - chapter 12

1 **Choose the correct answer.**

a. If the start time is 10:10 A.M. and the end time is 12:15 P.M. , then the elapsed time is ....

(1 hour and 45 minutes. **or** 2 hours and 15 minutes. **or** 2 hours and 5 minutes. **or** 3 hours and 5 minutes.)

b. If the start time is 2:25 P.M. and the elapsed time is 3 hours and 15 minutes, then the end time is ....

(5 : 30 P.M. **or** 5 : 40 P.M. **or** 4 : 50 P.M. **or** 5 : 40 A.M.)

c. Three hundred forty thousand ◯ 34,800 (> **or** < **or** =)

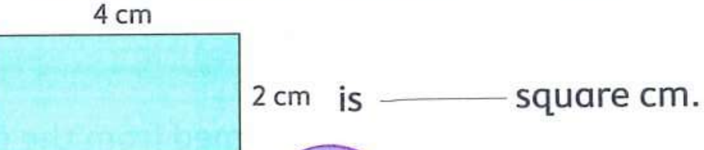
d. If the elapsed time is 1 hour and 40 minutes and the end time is 9 : 55 A.M., then the start time was ....

(8 : 15 A.M. **or** 8 : 00 A.M. **or** 11 : 35 A.M. **or** 8 : 15 P.M.)

---

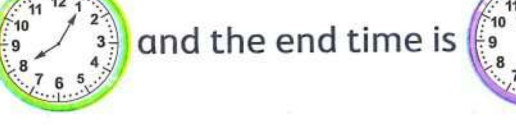
2 **Complete.**

a. Half the area of the rectangle

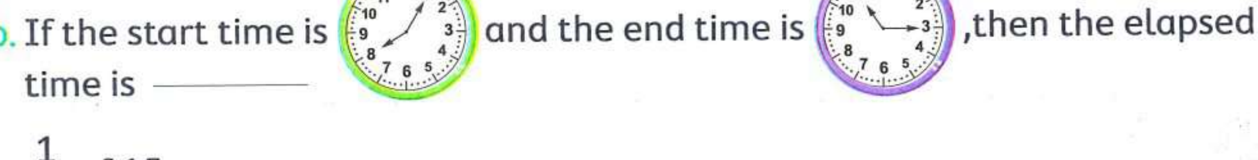


is .... square cm.

b. If the start time is



and the end time is



,then the elapsed time is ....

c. $\frac{1}{3}$ of 15 = ...

d. 100,000 + 4,000 + 600 + 80 = ...

e. Eslam started studying at 10 : 00 A.M. He studied for 4 hours and 15 minutes, then he finished at ....

---

3 Bassem traveled from Cairo to Port Said, he started at 7 : 30 A.M. and arrived after 2 hours and 30 minutes.

What time did he arrive Port Said ?

....

Sheet 31

Till lesson 5 - chapter 12

1 **Choose the correct answer.**

a. 24,552 ◯ 100,725 (> **or** < **or** =)

b. Half the area of the rectangle [6 cm × 2 cm] is ______ square cm.

(6 **or** 8 **or** 12 **or** 16)

c. There are ______ thirds in one. (3 **or** 2 **or** 4 **or** 1)

d. If the start time is 8 : 15 A.M. and the elapsed time is 3 hours and 10 minutes, then the end time is ______

(11 : 00 P.M. **or** 11 : 25 P.M. **or** 11 : 25 A.M. **or** 11 : 05 A.M.)

e. $\frac{1}{8} + \frac{2}{8}$ ☐ $\frac{7}{8} - \frac{4}{8}$ (> **or** < **or** =)

2 **The following tally table shows the favorite sports of pupils in a class. Complete the table and represent these data by a bar graph.**

Favorite sport

Sport	Tally	Number
Handball	𝍸 |||	______
Tennis	||||	______
Football	𝍸 𝍸	______
Swimming	𝍸		______

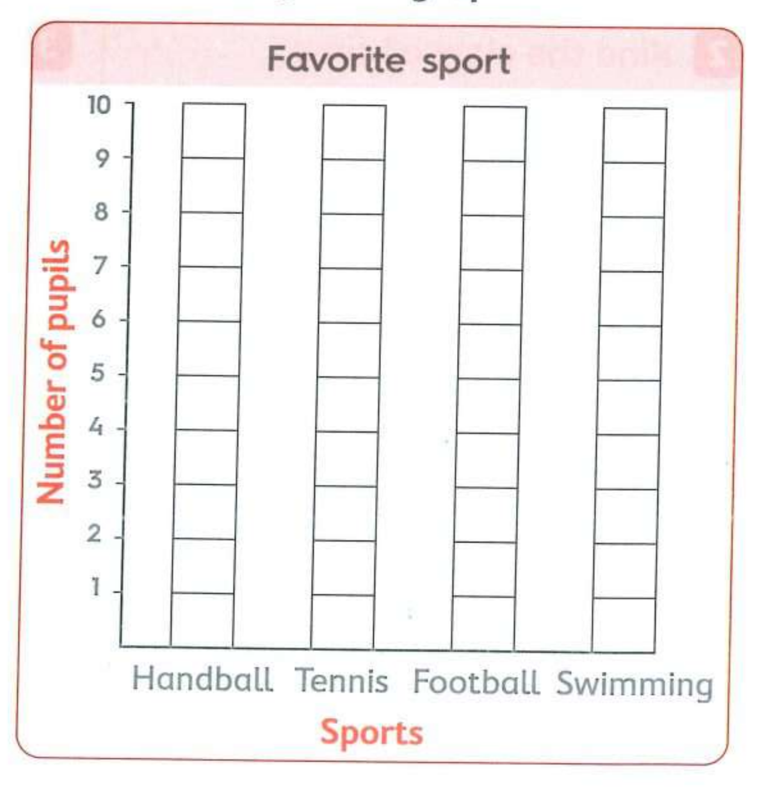
Answer the following questions :

a. Which sport is liked the most ? ______

b. Which sport is liked the least ? ______

c. How many more pupils liked football than tennis ? ______

d. What is the total number of pupils in the class ? ______



Assessment Chapter 12

1 Choose the correct answer.

a. 372,500 ◯ three hundred seventy-two thousand, five

(> **or** < **or** =)

b. Half of the area of the opposite figure = ____ square meters.

8 m, 5 m

(40 **or** 20 **or** 10)

c. The greatest number formed from 3 , 7 , 0 , 9 is ____

(7,930 **or** 3,079 **or** 9,730)

d. The perimeter of the opposite figure = ____

(17 **or** 18 **or** 16)

e. $\frac{1}{8}$ of 32 = ____

(3 **or** 4 **or** 5)

f. 9×11 = ____ (19 **or** 91 **or** 99)

2 Find the elapsed time.

Start time

End time

____

3 Put the fractions on the number line.

$\frac{6}{6}$, $\frac{4}{8}$, $\frac{2}{8}$, $\frac{1}{2}$

4 Represent the data by a line plot.

Title ____

____ ____ ____ ____ ____ ____

____

Key Each **X** = ____

Ages of children in a ballet class

Age	Tally	Number
3	III	____
4	𝍸 I	____
5	IIII	____
6	𝍸 IIII	____
7	𝍸 II	____
8	𝍸 III	____

5 Find the half of area of each of the following rectangles.

a. ______ ______ ______

(rectangle: 10 cm by 8 cm)

b. ______ ______ ______

(rectangle: 2 cm by 6 cm)

6 Complete.

a. 500,000 + 7,000 + 7 tens + 500 = ______ (in standard form)

b. 925,047 = ______ + ______ + ______ + ______ + ______ (in expanded form)

c. Three hundred forty-three thousoud, five hundred twelve = ______ (in standard form)

d. The place value of the digit 7 in the number 372,428 is ______

e. The value of the digit 5 in the number 325,894 is ______

f. 370 , 128 is ______ (in word form)

7 a. Write the following numbers in order from least to greatest.

45,281 | 720,241 | 99,999 | 501,421

The order is : ______ , ______ , ______ , ______

b. Write the following numbers in order from greatest to least.

102,210 | 201,210 | 792 | 37,040

The order is : ______ , ______ , ______ , ______

8 Khaled arrives at school at 7:40 A.M. He leaves school at 3:25 P.M.

How long was Khaled at school ?

______

______

Accumulative Assessment

Till chapter 12

1 **Complete.**

a. $\frac{2}{7} - \frac{1}{7} =$ ______

b. ______ $\div 6 = 6$

c. $70{,}000 + 30 + 1{,}000 + 9 =$ ______ (in standard form)

d. The smallest number formed from 3 , 4 , 0 , 8 , 2 is ______

e. $\frac{1}{3}$ of $12 =$ ______

---

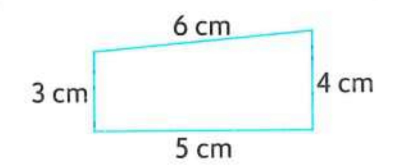
2 **Put (✓) to the correct statement and (X) to the incorrect statement.**

a. $\frac{2}{5} + \frac{1}{5} = \frac{3}{10}$ ( )

b. The place value of the digit 5 in the number 35,790 is Ten Thousands. ( )

c. $\frac{5}{9} < \frac{6}{9}$ ( )

d. The perimeter of the opposite figure is 18 cm. ( )



e. Thirty-five thousand, four hundred six in standard form is 35,460 ( )

---

3 **Choose the correct answer.**

a. $17 \times 12 = (10 +$ ______ $) \times 12$ (17 **or** 7 **or** 10)

b. The fraction that represents the colored parts

is ______

($\frac{5}{15}$ **or** $\frac{7}{15}$ **or** $\frac{3}{14}$)

c. 74,026 ◯ 9,897 ($<$ **or** $=$ **or** $>$)

d. The area of the opposite rectangle is ______ square cm.

(8 **or** 16 **or** 15)

e. $\frac{3}{7}$ ◯ $\frac{3}{8}$ ($<$ **or** $=$ **or** $>$)

4 Match.

a. The perimeter of square of side length 10 cm

b. The area of square of side length 6 cm

c. The area of the figure

17 square units

The perimeter of rectangle of length 13 cm and width 7 cm

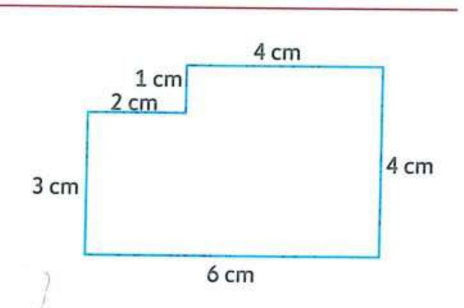
36 square cm

5 Bassem played football for 45 minutes, if he finished at 3 : 45, at which time did he start ? ______

6 Calculate the perimeter and the area of the opposite shape.

The perimeter = ______

The area = ______



7 Heba bought 4 pizza slices of 8 pounds each.

She paid 40 pounds.

How much is the rest with Heba ?

______

______

Second Monthly Tests

Month	Lessons
March	From lesson (1) - unit (7) to the end of lesson(4) - unit (9)
April	From lesson (5) - unit (9) to the end of lesson (7) - unit (11)

March Tests

1 Choose the correct answer.

a. $11 \times 4 =$ ....

◯ 40 ◯ 44 ◯ 48 ◯ 52

b. $\frac{1}{4}$ ☐ $\frac{1}{3}$

◯ $>$ ◯ $=$ ◯ $<$

c. $40 \div$ .... $= 8$

◯ 20 ◯ 8 ◯ 10 ◯ 5

2 Answer the following.

(1) Mustafa has 90 L.E. He gave his sister 70 L.E. and the rest he distributed it among four of his friends. **How much money each friend would take ?**

....

(2) Mariam wants to cut a bar of candy into 4 equal pieces and ate one of them. **Which fraction of the bar did she eat ?**

....

(3) Find the length of the rectangle whose width is 5 cm and perimeter is 22 cm.

....

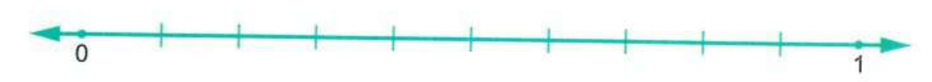
(4) Hany baked 10 cakes in one hour. **How many cakes could he bake in 6 hours ?**

....

(5) Bassem has 9 candies, he ate $\frac{1}{3}$ of them. **How many candies did Bassem eat ?**

....

(6) Represent $\frac{7}{10}$ on the number line.



....

(7) Color to show the fraction two thirds.

....

Test 2

1 Choose the correct answer.

a. $16 \times 7 = (_____ + 6) \times 7$

◯ 1 ◯ 6 ◯ 10 ◯ 7

b. The shape ⊕ is divided into _____ equal parts.

◯ 4 ◯ 5 ◯ 3 ◯ 6

c. $1 =$ _____ fifths.

◯ 4 ◯ 5 ◯ 6 ◯ 7

---

2 Answer the following.

(1) What is the perimeter of the square whose side length is 8 cm ?

_____

(2) Amgad has 24 oranges, he wants to pack each 4 oranges in a bag.

How many bags does he need ?

_____

(3) What is the fraction whose numerator is 1 and denominator is 5 ?

_____

(4) Wael has a square piece of paper, he folded it in halves and he folded each half in halves again.

What fraction represents each folded part ?

_____

(5) Samy ran $\frac{1}{4}$ of a kilometer, Maged ran $\frac{1}{2}$ of a kilometer. **Who ran farther ?**

_____

(6) Ayman divided 40 counters into fifths.

How many counters will be in each group ?

_____

(7) Aya bought a bar of cheese for 35 L.E. and bought 5 bags of tea.
If the price of each bag of tea is 11 L.E.
How much money did she pay in all ?

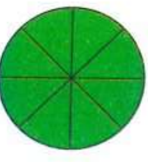
_____

Test 3

1 Choose the correct answer.

a. $48 \div 6 =$ ______

○ 6 ○ 7 ○ 8 ○ 9

b. The equal parts of  is ______

○ 6 ○ 7 ○ 8 ○ 9

c. $\frac{1}{3}$ of 12 ☐ $\frac{1}{4}$ of 16

○ $<$ ○ $=$ ○ $>$

---

2 Answer the following.

(1) Find the product of : $2 \times 5 \times 8$

______

(2) Farha has 8 bags of marbles, each bag has 6 marbles.
How many marbles does she have ?

______

(3) What is the side length of the square whose perimeter is 36 cm ?

______

(4) What is the number of tenths in one whole ?

______

(5) Rami has a long piece of wood, he wants to cut it into enough pieces to distribute it on his 5 friends. **Draw fraction strips to match this story.**

______

(6) Amal bought a 6 – pack of sode to give equally to her 6 friends.
How many cans of sode will each friend receive ?

______

(7) Bassem bought 5 pens for 8 L.E. each and one book for 55 L.E.
How much money did he pay in all ?

______

April Tests

Test 1

1 Choose the correct answer.

a. $\frac{1}{9} + \frac{3}{9} =$ ______

○ $\frac{4}{9}$ ○ $\frac{2}{9}$ ○ $\frac{4}{18}$ ○ $\frac{2}{18}$

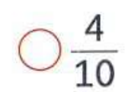
b. $\frac{5}{8} = \frac{\quad}{24}$

○ 5

○ 10

○ 15
○ 20

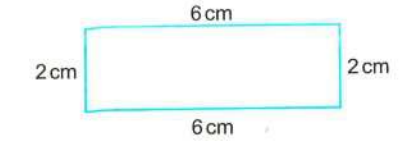
c. $\frac{4}{7} <$ ______

○ $\frac{4}{7}$ ○ $\frac{6}{7}$

○ $\frac{4}{10}$ ○ $\frac{4}{9}$

---

2 Answer the following.

(1) Find the perimeter of the rectangle.



____

(2) Hany wants to divide 24 candies among 8 students. **How many candies will each student take ?**

____

(3) Fatma studied Mathematics for $\frac{6}{10}$ of an hour and studied Arabic for $\frac{5}{10}$ of an hour. **Which subject she spent more time studying ?**

____

(4) Draw a number line and divide it into sixths, then mark the fraction which is equivalent to $\frac{1}{2}$

____

(5) Write the fact family of : 3 , 7 , 21

____

(6) What is the area of the square whose side length is 9 cm ?

____

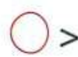
(7) Ahmed ate $\frac{1}{8}$ of a pie in one day, the next day he ate $\frac{3}{8}$ of this pie. **What fraction did he eat ?**

____

Test 2

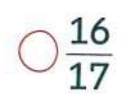
1 Choose the correct answer.

a. $\frac{5}{12}$ ☐ $\frac{5}{19}$

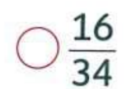


◯ >   ◯ =   ◯ <

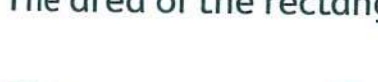
b. $\frac{9}{17} - \frac{7}{17} =$ ______

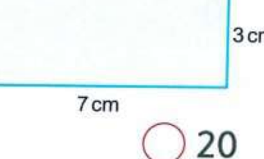


◯ $\frac{16}{17}$ ◯ $\frac{2}{34}$ ◯ $\frac{16}{34}$ ◯ $\frac{2}{17}$



c. The area of the rectangle





is ______ square cm.

◯ 21   ◯ 10   ◯ 20   ◯ 42

2 Answer the following.

(1) Dina ran $\frac{1}{5}$ of a kilometer and Bassem ran $\frac{3}{5}$ of a kilometer.

What fraction of a kilometer did both run ?

____

(2) Draw a square of perimeter 12 cm.

____

(3) How many eighths are equivalent to $\frac{1}{2}$?

____

(4) A water bottle is $\frac{7}{8}$ full, Sarah drank $\frac{4}{8}$ of the bottle. How much water is left ?

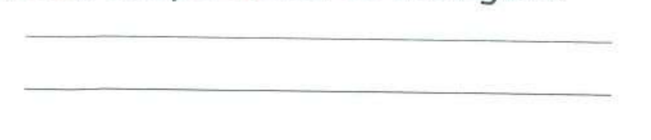
____

(5) Shimaa placed 28 toys in four boxes. **How many toys are in each box ?**

____

(6) Solve : • $3 \times 11 =$ ______   • $32 \div 8 =$ ______

(7) Find the perimeter of the figure.



4 cm
5 cm
7 cm
8 cm
3 cm
11 cm

Test 3

1 Choose the correct answer.

a. $\frac{2}{3} + \frac{1}{3}$ ☐ $\frac{6}{7} - \frac{5}{7}$

◯ < ◯ = ◯ >

b. ______ $\div 5 = 6$

◯ 20 ◯ 25 ◯ 30 ◯ 35

c. $8 \times 0 =$ ______

◯ 8 ◯ 0 ◯ 1 ◯ 80

2 Answer the following.

(1) Nour divided her toys into 10 tenths, she gave her sister $\frac{3}{10}$ of the toys. **What fraction of toys is left with Nour ?**

____

(2) Solve : • $\frac{7}{9} + \frac{1}{9} =$ ______ • $\frac{13}{16} - \frac{6}{16} =$ ______

(3) Draw a number line, divide it into ninths, then mark the equivalent fraction to $\frac{1}{3}$

____

(4) Discover the pattern : $\frac{3}{4} = \frac{6}{__} = \frac{__}{16}$

(5) A father wants to divide 18 L.E. between his 2 children. **How much money will each one take ?**

____

(6) Find the perimeter of the rectangle whose area is 24 square cm. and width 4 cm.

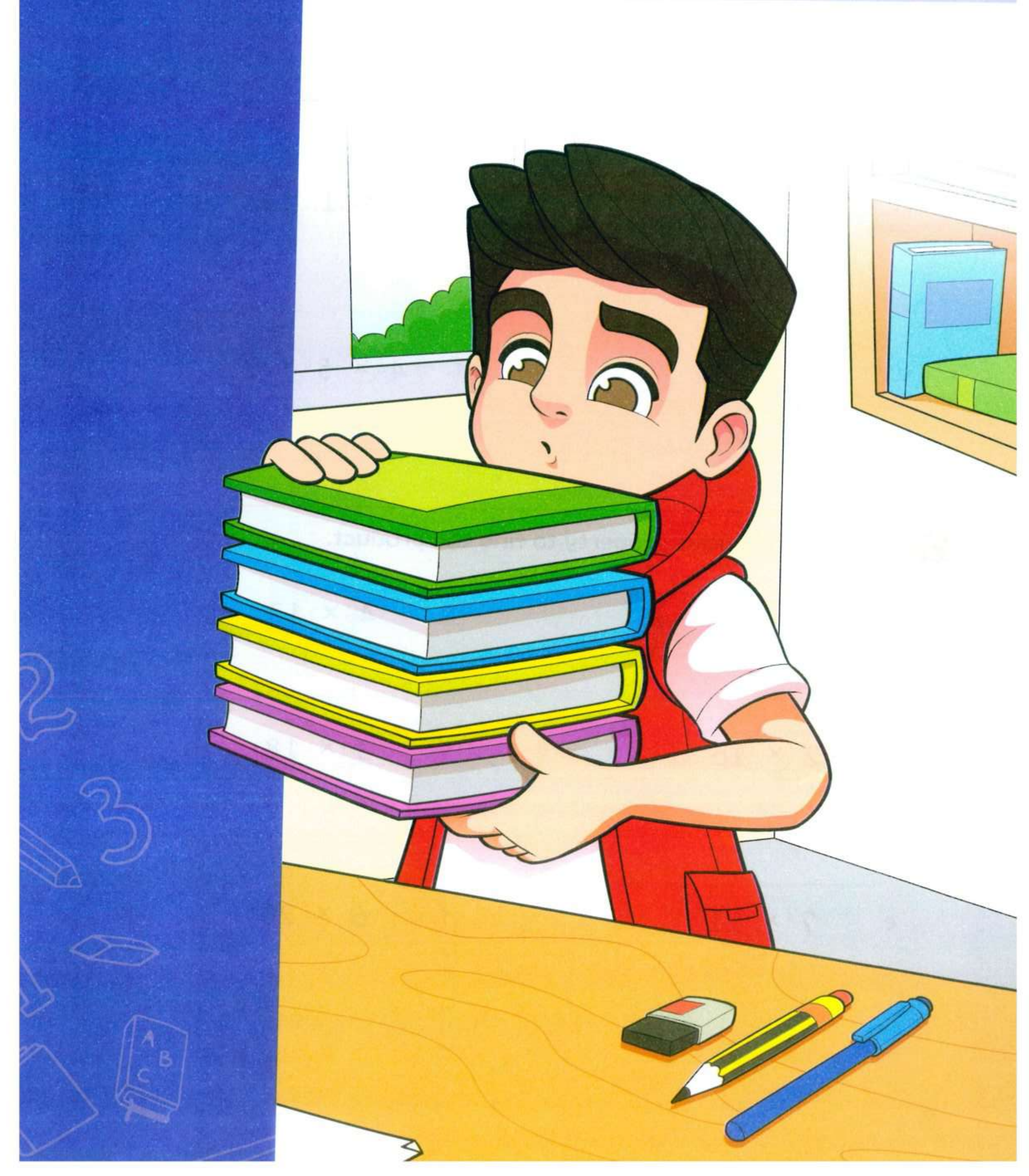
____

____

(7) There 10 boxes and each box has 6 toys. **How many toys are there ?**

____

Third General Revision



General Revision on Chapter 7

1 Solve to find the product.

a. $2 \times 3 \times 5$

b. $4 \times 2 \times 1$

c. $6 \times 2 \times 4$

d. $5 \times 1 \times 7$

e. $3 \times 2 \times 2$

f. $4 \times 5 \times 2$

2 Use the distributive property to find the product.

a. 5×12

b. 4×13

c. 2×16

d. 3×18

e. 7×11

f. 6×20

3 Find the product. Draw a line to match.

$3 \times 4 =$ ____ $8 \times 5 =$ ____ $7 \times 10 =$ ____

$(5 \times 10) + (2 \times 10) =$ ____

$(1 \times 4) + (2 \times 4) =$ ____

$(4 \times 5) + (4 \times 5) =$ ____

4 Find the missing numbers.

a. $2 \times$ ____ $= 18$	b. ____ $\times 5 = 20$	c. $9 \times 6 =$ ____
d. $7 \times$ ____ $= 21$	e. ____ $\times 3 = 9$	f. $2 \times 7 =$ ____
g. $24 \div$ ____ $= 6$	h. $42 \div$ ____ $= 6$	i. $36 \div 6 =$ ____
j. ____ $\div 5 = 5$	k. ____ $\div 9 = 6$	l. ____ $\div 3 = 5$

m. $(8 \times 3) \times$ ____ $= 48$	n. $9 \times (7 \times$ ____ $) = 63$
o. $(5 \times 12) \times$ ____ $= 0$	p. $2 \times (5 \times$ ____ $) = 50$

5 Find the perimeter and the area of each of the following.

Shape	Perimeter	Area
a. Square with sides 2 cm, 2 cm, 2 cm, 2 cm		
b. Square with side 7 m		
c. Rectangle with sides 4 cm, 3 cm, 3 cm, 4 cm		
d. Rectangle with sides 5 m, 2 m		

6 Find the length of the square which its perimeter is 36 cm.

Perimeter = 36 cm

?

7 Find the width of the rectangle which its length is 5 cm and its perimeter is 18 cm.

Perimeter = 18 cm

?

5 cm

8 **Put (✓) to the correct statement or (✗) to the incorrect statement.**

a. The perimeter of the square of side length 5 cm is 25 cm. ( )

b. $3 \times 15 = (3 \times 1) + (3 \times 5)$ ( )

c. $7 \times 18 = (7 \times 10) + (7 \times 8)$ ( )

d. The perimeter of a rectangle of length 7 cm and width 3 cm is 20 cm. ( )

e. $54 \div 6 = 6$ ( )

f. $(2 \times 3) \times 7 = 35$ ( )

---

9 **Choose the correct answer.**

a. ______ $\div 5 = 5$ (1 or 10 or 20 or 25)

b. $7 \times 16 =$ ______

(7 × (10 × 6) or 7 × (10 + 6) or 7 × (1 + 6) or 7 × (10 – 6))

c. $8 \times$ ______ $= 24$ (2 or 3 or 4 or 5)

d. The length of the rectangle whose width is 4 cm and perimeter is 18 cm equals ______ cm. (2 or 3 or 5 or 14)

e. The side length of the square of perimeter 24 cm is ______ cm.

(2 or 4 or 6 or 12)

f. $40 \div$ ______ $= 8$ (5 or 4 or 10 or 8)

g. ______ $\times 7 = 14$ (1 or 2 or 7 or 10)

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10 **Join.**

a. The perimeter of a square of side length 7 cm is ______ cm • • 16

b. $2 \times 3 \times 7 =$ ______ • • 1

c. The perimeter of a rectangle of length 5 cm and width 3 cm is ______ cm • • 28

d. $7 \times 6 = 7 \times (5 +$ ______ $)$ • • 42

11 Nada buys 21 toys. She has 4 boxes.
She wants to put 3 toys in each box.
How many more boxes does Nada need ?

---

12 Mazen earns 15 L.E. per week for 4 weeks to do all his chores. On the fifth week, he forgets to take out the trash, so he only earns 10 L.E.
How much does Mazen earn in 5 weeks ?

---

13 Hoda baked 28 cupcakes. She divided the cupcakes equally into 4 containers. Then, she baked more cupcakes so that she could put 3 more cupcakes in each containers.
How many cupcakes are in each container ?

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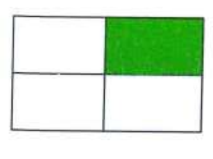
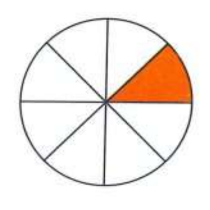
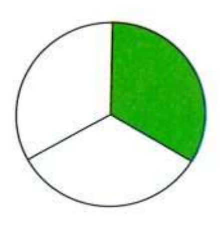
14 Marwan bought 3 pizza slices of 9 pounds each.
He paid 30 pounds.
How much is the rest ?

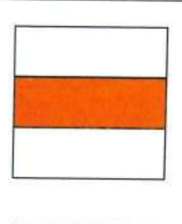
General Revision on Chapter 8

1 Write the fraction for the colored part.

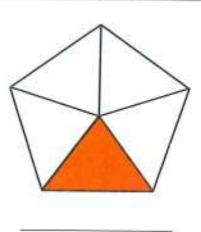
a.  ______

b.  ______

c.  ______

d.  ______

e. ______

f.  ______

2 Compare with "> or <".

a. $\frac{1}{3}$ ○ $\frac{1}{6}$

b. $\frac{1}{7}$ ○ $\frac{1}{2}$

c. $\frac{1}{5}$ ○ $\frac{1}{8}$

d. $\frac{1}{6}$ ○ $\frac{1}{4}$

e. $\frac{1}{8}$ ○ $\frac{1}{7}$

f. $\frac{1}{12}$ ○ $\frac{1}{10}$

g. $\frac{1}{2}$ ○ $\frac{1}{5}$

h. $\frac{1}{4}$ $\frac{1}{7}$

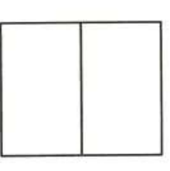
i. $\frac{1}{3}$ ○ 1

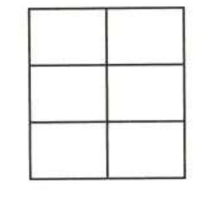
3 Match each with its meaning.

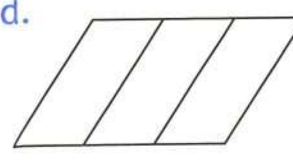
a. Numerator	Bottom number of a fraction
b. Denominator	Fraction with a numerator of 1
c. Unit fraction	Top number of a fraction
d. Fraction	A comparison of equal parts to a whole

4 Name the equal parts of each whole.

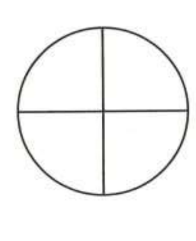
a. ______

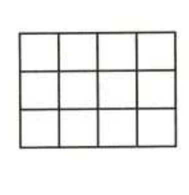
b.  ______

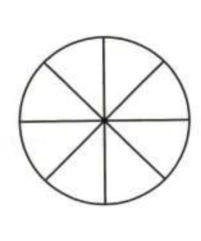
c.  ______

d.  ______

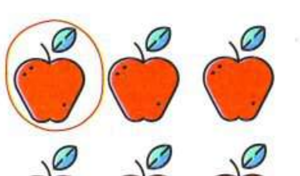
e. ______

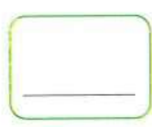
f.  ______

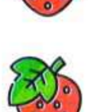
g.  ______

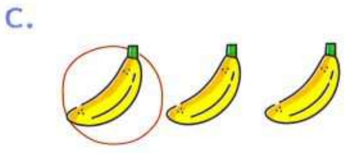
h.  ______

5 Write a fraction to show what part of each set is circled.

a. 



b.


c. 

6 Circle the correct answer.

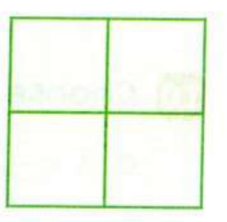
a. Which is more ? (half of a watermelon or half of a banana)

b. Which is longer ? (half of dinner time or half of a day)

c. Which is more ? (half an hour or half a minute)

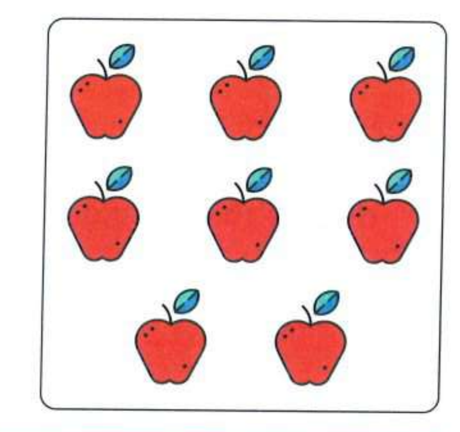
7 a. Write the unit fraction of each part of square. ____________

b. What the number of fourths that make one whole ? ____________



8 Eslam has 8 apples, he wants to divide them amany 4 friends equally.

How many apples will each friend get ? ____________



9 **Find each of the following.**

a. $\frac{1}{3}$ of 24 = ____________

b. $\frac{1}{6}$ of 18 = ____________

c. $\frac{1}{4}$ of 12 = ____________

d. $\frac{1}{9}$ of 9 = ____________

e. $\frac{1}{8}$ of 48 = ____________

f. $\frac{1}{5}$ of 10 = ____________

g. $\frac{1}{5}$ of 20 = ____________

h. $\frac{1}{4}$ of 32 = ____________

i. $\frac{1}{7}$ of 21 = ____________

j. $\frac{1}{9}$ of 27 = ____________

k. $\frac{1}{3}$ of 18 = ____________

l. $\frac{1}{7}$ of 28 = ____________

m. $\frac{1}{5}$ of 45 = ____________

n. $\frac{1}{2}$ of 20 = ____________

o. $\frac{1}{6}$ of 6 = ____________

p. $\frac{1}{8}$ of 16 = ____________

10 Choose the correct answer.

a. $1 = \frac{\ }{7}$ (1 **or** 7 **or** 14 **or** 0)

b. $\frac{1}{3}$ of 24 ◯ $\frac{1}{2}$ of 16 (> **or** < **or** =)

c. $\frac{1}{5}$ of ________ = 2 (5 **or** 10 **or** 15 **or** 20)

d. One third in digits is ________ ($\frac{1}{2}$ **or** $\frac{1}{3}$ **or** $\frac{1}{4}$ **or** 3)

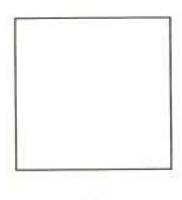
e. One eighth = $\frac{\ }{\ }$ (8 **or** $\frac{1}{2}$ **or** $\frac{1}{8}$ **or** $\frac{1}{3}$)

f. The number of sixths that make one whole = ________ (2 **or** 6 **or** 12 **or** 18)

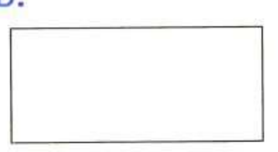
g. The equal parts of ⬠ is ________ (thirds **or** fourths **or** fifths **or** sixths)

h. $\frac{20}{\ } = 1$ (2 **or** 5 **or** 10 **or** 20)

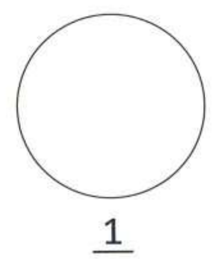
11 Draw a line or lines to show equal parts then color to show the fraction.

a. 

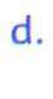
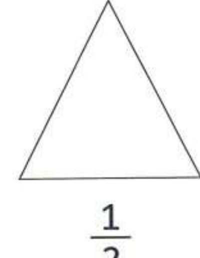
$\frac{1}{4}$

b. 

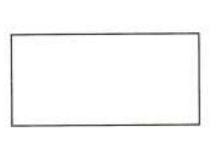
$\frac{1}{3}$

c. 

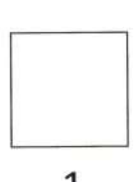
$\frac{1}{2}$

d.  

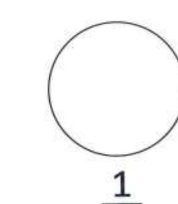
$\frac{1}{2}$

e. 

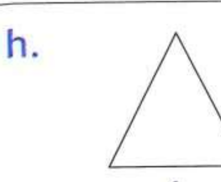
$\frac{1}{3}$

f. 

$\frac{1}{5}$

g. 

$\frac{1}{3}$

h. 

$\frac{1}{3}$

General Revision on Chapter 9

1 Write a fraction for the colored part.

a. ______ b. ______ c. ______ d. ______

e. ______ f. ______ g. ______ h. ______

i. ______ j. ______ k. ______ l. ______

m. ______ n. ______ o. ______ p. ______

2 Draw one model for the following fractions.

a. $\frac{2}{3}$ b. $\frac{3}{4}$ c. $\frac{1}{2}$

d. $\frac{3}{8}$ e. $\frac{2}{5}$ f. $\frac{4}{6}$

3 Write the following fractions on the number line.

a. $\frac{2}{3}$

b. $\frac{3}{4}$

0 1

c. $\frac{5}{7}$

0 1

d. $\frac{2}{4}$

0 1

e. $\frac{5}{8}$

0 1

f. $\frac{2}{5}$

0 1

4 Compare "write > or <".

a. $\frac{2}{3}$ ○ $\frac{2}{5}$

b. $\frac{2}{7}$ ○ $\frac{3}{7}$

c. $\frac{5}{6}$ ○ $\frac{4}{6}$

d. $\frac{3}{5}$ ○ $\frac{4}{5}$

e. $\frac{7}{10}$ ○ $\frac{9}{10}$

f. $\frac{7}{9}$ ○ $\frac{7}{8}$

g. $\frac{3}{4}$ ○ 1

h. $\frac{1}{2}$ ○ $\frac{1}{3}$

i. 1 ○ $\frac{5}{9}$

j. $\frac{4}{5}$ ○ $\frac{4}{7}$

k. $\frac{5}{8}$ ○ $\frac{5}{7}$

l. $\frac{7}{12}$ ○ $\frac{5}{12}$

5 Find the result.

a. $\frac{1}{3} + \frac{1}{3} = \frac{\square}{\square}$

b. $\frac{3}{5} - \frac{1}{5} = \frac{\square}{\square}$

c. $\frac{2}{7} + \frac{3}{7} = \frac{\square}{\square}$

d. $\frac{2}{8} + \frac{3}{8} = \frac{\square}{\square}$

e. $\frac{2}{10} + \frac{5}{10} = \frac{\square}{\square}$

f. $\frac{5}{10} - \frac{2}{10} = \frac{\square}{\square}$

g. $\frac{5}{6} - \frac{1}{6} = \frac{\square}{\square}$

h. $\frac{4}{9} + \frac{2}{9} = \frac{\square}{\square}$

i. $1 - \frac{4}{10} = \frac{\square}{\square}$

j. $\frac{2}{5} + \frac{3}{5} = \frac{\square}{\square}$

k. $\frac{3}{9} - \frac{1}{9} = \frac{\square}{\square}$

l. $1 - \frac{10}{12} = \frac{\square}{\square}$

6 Complete the missing fractions in each number line.

a. 0, $\frac{1}{7}$, ☐, ☐, $\frac{4}{7}$, $\frac{5}{7}$, ☐, 1

b. 0, ☐, 1

c. 0, $\frac{1}{8}$, $\frac{2}{8}$, ☐, ☐, $\frac{5}{8}$, ☐, ☐, 1

7 Put (✓) to the correct statement or (✗) to the incorrect statement.

a. $\frac{1}{7}+\frac{2}{7}=\frac{3}{14}$ ( )

b. $\frac{7}{10}-\frac{2}{10}=\frac{5}{10}$ ( )

c. $\frac{3}{7}<\frac{3}{8}$ ( )

d. $\frac{7}{9}>\frac{5}{9}$ ( )

e. $1>\frac{2}{5}$ ( )

f. $\frac{2}{11}+\frac{1}{11}>\frac{2}{3}+\frac{1}{3}$ ( )

8 Match.

a. $\frac{1}{7}+\frac{1}{7}$

b. $\frac{2}{7}+\frac{3}{7}$

c. $\frac{3}{7}+\frac{1}{7}$

d. $\frac{2}{9}+\frac{7}{9}$

$\frac{6}{7}-\frac{2}{7}$

$\frac{8}{8}$

$\frac{6}{7}-\frac{1}{7}$

$\frac{5}{7}-\frac{3}{7}$

9 **Choose the correct answer.**

a. $\frac{7}{12} - \frac{5}{12} =$ ______ ($\frac{1}{12}$ or $\frac{2}{12}$ or $\frac{12}{12}$ or $\frac{7}{12}$)

b. $\frac{3}{8} +$ ______ $= \frac{5}{8}$ ($\frac{1}{8}$ or $\frac{2}{8}$ or $\frac{3}{8}$ or $\frac{5}{8}$)

c. $\frac{9}{11} -$ ______ $= \frac{6}{11}$ ($\frac{1}{11}$ or $\frac{2}{11}$ or $\frac{3}{11}$ or $\frac{4}{11}$)

d. $\frac{7}{10} + \frac{1}{10} =$ ______ ($\frac{7}{20}$ or $\frac{8}{10}$ or $\frac{8}{20}$)

e. ______ $+ \frac{4}{11} = \frac{7}{11}$ ($\frac{1}{11}$ or $\frac{2}{11}$ or $\frac{3}{11}$)

f. ______ $- \frac{3}{5} = \frac{1}{5}$ ($\frac{2}{5}$ or $\frac{4}{5}$ or $\frac{1}{3}$)

g. $\frac{7}{10}$ ◯ $\frac{7}{8}$ (> or < or =)

h. $\frac{1}{2}$ ◯ $\frac{1}{8}$ (> or < or =)

i. $\frac{3}{5}$ ◯ $\frac{3}{7}$ (> or < or =)

j. $\frac{5}{9}$ ◯ $\frac{3}{9}$ (> or < or =)

k. $\frac{2}{3}$ ◯ $\frac{1}{3}$ (> or < or =)

l. $\frac{7}{15}$ ◯ $\frac{8}{15}$ (> or < or =)

m. $\frac{1}{7} + \frac{6}{7}$ ◯ $\frac{4}{9} + \frac{5}{9}$ (> or < or =)

n. $\frac{3}{7} + \frac{1}{7}$ ◯ $\frac{2}{7} + \frac{4}{7}$ (> or < or =)

o. $\frac{4}{5} - \frac{3}{5}$ ◯ $\frac{3}{9} - \frac{2}{9}$ (> or < or =)

p. $\frac{7}{8} - \frac{4}{8} \bigcirc \frac{1}{8} + \frac{3}{8}$ (> **or** < **or** =)

q. $\frac{4}{11} + \frac{2}{11} \bigcirc \frac{3}{7} + \frac{3}{7}$ (> **or** < **or** =)

r. $\frac{2}{5} + \frac{3}{5} \bigcirc \frac{4}{7} - \frac{3}{7}$ (> **or** < **or** =)

---

10 The water bottle of Sara was $\frac{5}{7}$ full. Sara drank $\frac{2}{7}$ of bottle.

How much water was left in the bottle ?

____

____

---

11 Omnia needs $\frac{3}{4}$ cup of milk to make pancakes, she only have $\frac{1}{4}$ cup of milk.

How much more milk does she need ?

____

____

---

12 Seif ate $\frac{2}{7}$ of his chocolate and Bassem ate $\frac{3}{7}$ of it.

How much of the chocolate did they both eat ?

____

____

---

13 Habiba is making 3 kinds of pizza, the first kind takes $\frac{2}{3}$ of a cup of flour, the second kind takes $\frac{2}{4}$ of a cup of flour and the third kind takes $\frac{2}{5}$ of a cup of flour.

Which kind takes more flour ?

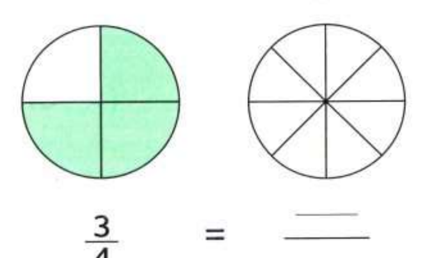
____

____

General Revision on Chapter 10

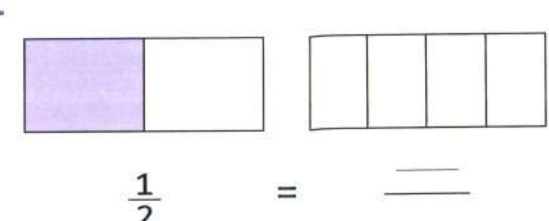
1 Color and write the equivalent fractions.

a.



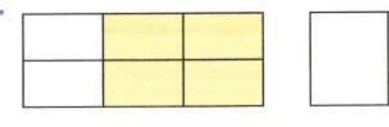
$\frac{3}{4}$ = ——

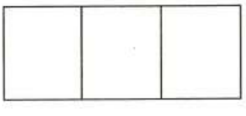
b.



$\frac{1}{2}$ = ——

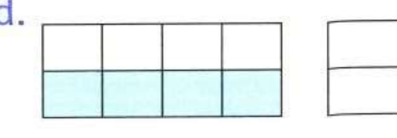
c.

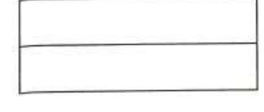




$\frac{4}{6}$ = ——

d.

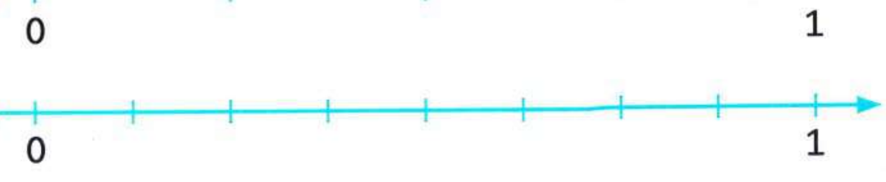




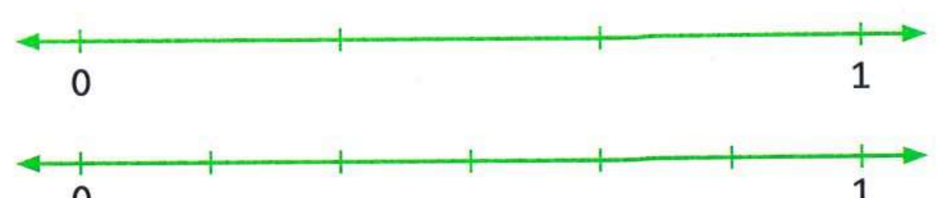
$\frac{4}{8}$ = ——

2 Complete by using number line.

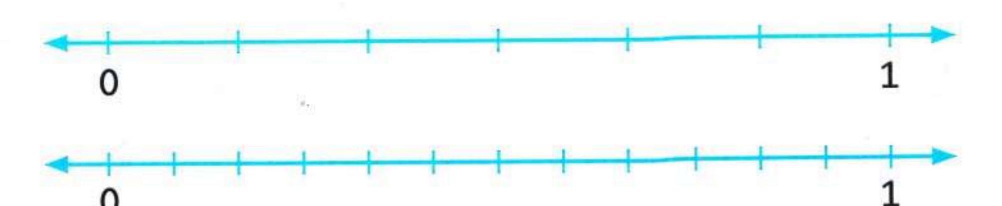
a. $\frac{3}{4}$ = ——

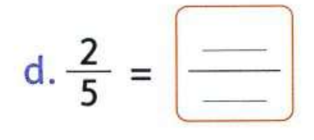


b. $\frac{2}{3}$ = ——

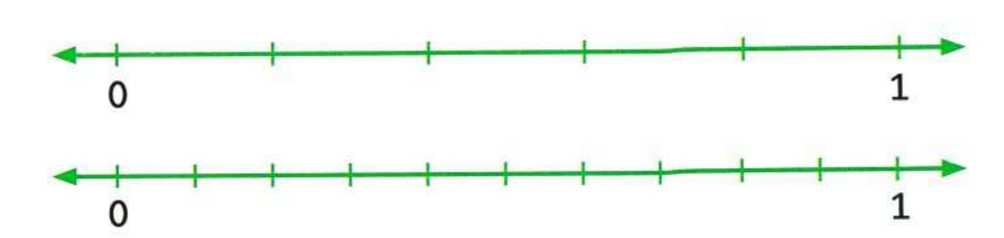


c. $\frac{5}{6}$ = ——





d. $\frac{2}{5}$ = ——



3 Write the fact family for each of the following.

a. 2 , 4 , 8

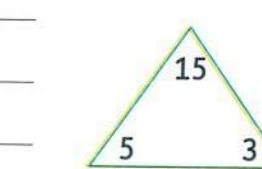
______
______
______
______

b. 4 , 6 , 24

______
______
______
______

c.

______
______
______
______



4 Choose the correct answer.

a. $\frac{2}{3} = \frac{__}{__}$ $\left(\frac{4}{8} \text{ or } \frac{6}{12} \text{ or } \frac{4}{6}\right)$

b. $\frac{5}{7} = \frac{__}{21}$ (10 or 15 or 25)

c. $\frac{1}{4} = \frac{7}{__}$ (28 or 7 or 14)

d. $\frac{4}{8} = \frac{__}{__}$ $\left(\frac{1}{2} \text{ or } \frac{3}{4} \text{ or } \frac{1}{4}\right)$

e. $\frac{3}{5} = \frac{15}{__}$ (15 or 25 or 45)

f. $\frac{2}{9} = \frac{__}{__}$ $\left(\frac{4}{27} \text{ or } \frac{6}{27} \text{ or } \frac{2}{27}\right)$

g. $\frac{5}{6} = \frac{__}{__}$ $\left(\frac{10}{18} \text{ or } \frac{5}{24} \text{ or } \frac{20}{24}\right)$

h. $\frac{6}{16} = \frac{__}{__}$ $\left(\frac{2}{4} \text{ or } \frac{12}{32} \text{ or } \frac{6}{8}\right)$

i. $\frac{4}{12} = \frac{__}{__}$ $\left(\frac{1}{3} \text{ or } \frac{4}{3} \text{ or } \frac{1}{2}\right)$

j. $\frac{8}{10} = \frac{__}{__}$ $\left(\frac{8}{20} \text{ or } \frac{16}{15} \text{ or } \frac{4}{5}\right)$

5 Look for a pattern. Complete the next three fractions and describe the pattern.

a. $\frac{1}{4}$, $\frac{2}{8}$, $\frac{3}{12}$, $\frac{4}{__}$, $\frac{5}{__}$, $\frac{6}{__}$

Description of the pattern : ____________________

b. $\frac{2}{3}$, $\frac{4}{6}$, $\frac{6}{9}$, $\frac{__}{12}$, $\frac{__}{15}$, $\frac{__}{18}$

Description of the pattern : ____________________

c. $\frac{1}{2} = \frac{2}{4} = \frac{__}{6} = \frac{4}{__} = \frac{5}{__} = \frac{__}{12}$

Description of the pattern : ____________________

6 Write 2 different equivalent fractions to each of the following.

a. $\frac{1}{7} = \frac{__}{__} = \frac{__}{__}$

b. $\frac{4}{9} = \frac{__}{__} = \frac{__}{__}$

c. $\frac{2}{6} = \frac{__}{__} = \frac{__}{__}$

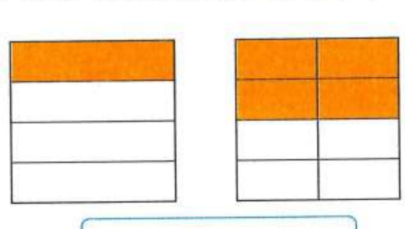
d. $\frac{1}{3} = \frac{__}{__} = \frac{__}{__}$

e. $\frac{3}{4} = \frac{__}{__} = \frac{__}{__}$

f. $\frac{2}{5} = \frac{__}{__} = \frac{__}{__}$

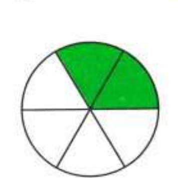
7 Write if the fractions are equivalent or not equivalent.

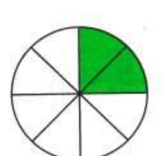
a.



____

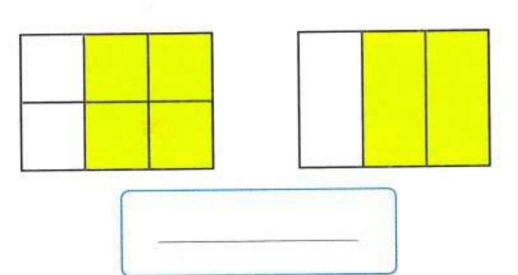
b.





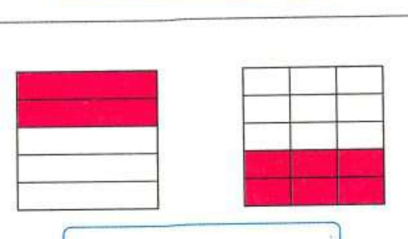
____

c.



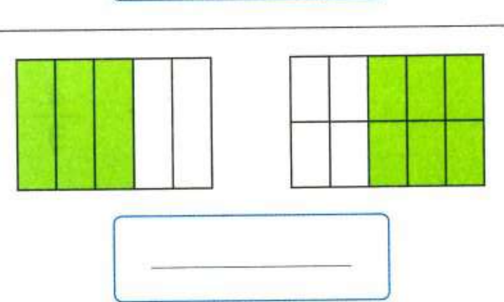
____

d.



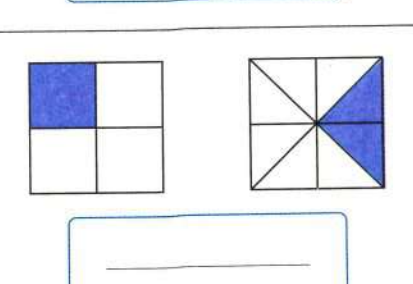
____

e.



____

f.



____

8 Match the equivalent fractions.

a. $\frac{3}{5}$ b. $\frac{1}{4}$ c. $\frac{4}{5}$ d. $\frac{2}{7}$

$\frac{6}{21}$ $\frac{8}{10}$ $\frac{6}{10}$ $\frac{5}{20}$

9 Put (✓) to the correct statement or (✗) to the incorrect statement.

a. $\frac{1}{5} = \frac{3}{15}$ ( )

b. $\frac{4}{7} = \frac{8}{21}$ ( )

c. $\frac{5}{8} = \frac{10}{16}$ ( )

d. $\frac{2}{3} = \frac{20}{30}$ ( )

e. $\frac{1}{9} = \frac{10}{18}$ ( )

f. $\frac{5}{5} = \frac{7}{7}$ ( )

g. $\frac{2}{7} = \frac{10}{35} = \frac{8}{20}$ ( )

h. $\frac{2}{5} = \frac{6}{15} = \frac{8}{20}$ ( )

i. $\frac{3}{4} = \frac{6}{8} = \frac{15}{20}$ ( )

10 Omnia and Rawan each made a pizza of the same size, Omnia's pizza was cut into sixths and Rawan's pizza was cut into twelfths, Omnia ate $\frac{1}{6}$ of her pizza. If Rawan wants to eat the same amount of pizza as Omnia. How many slices of pizza will she have to eat ? (Write answers as a fraction) "Draw a number line or model to help solve the problem".

Work area

11 Adam placed 30 toys equally in 5 boxes.

How many toys are in each box ?

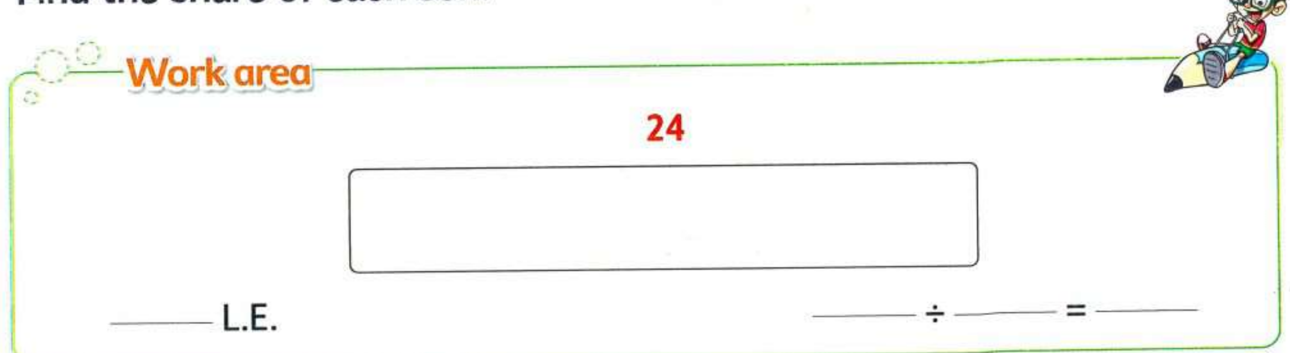
Work area

30

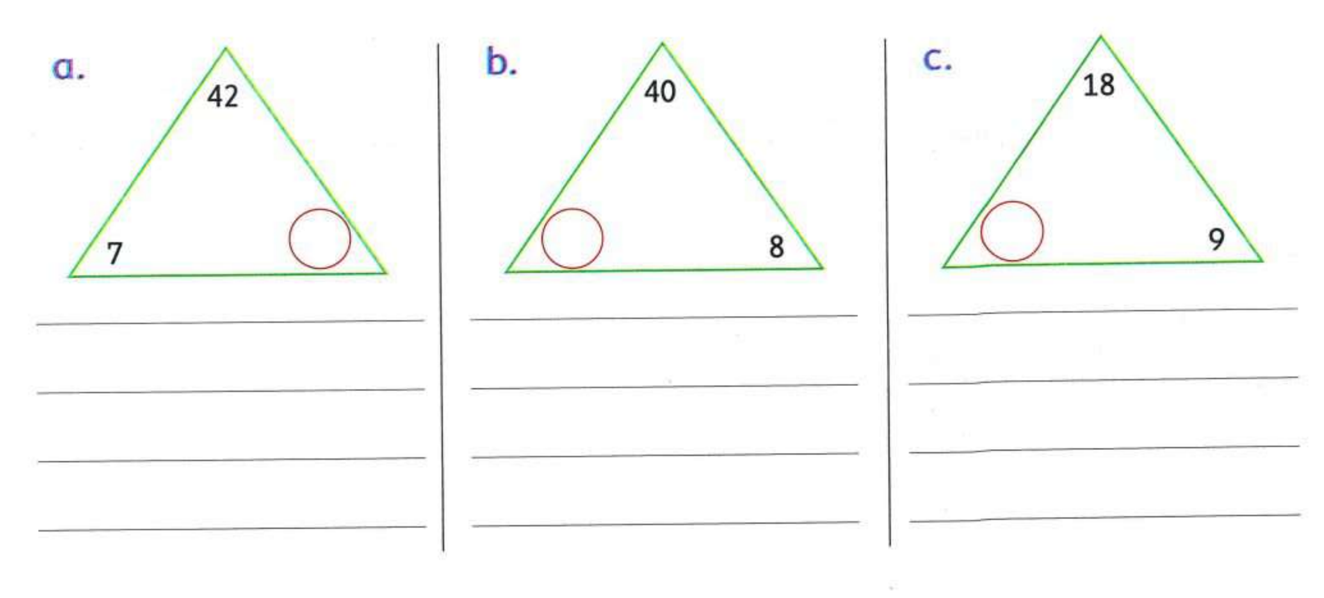
_____ toys   _____ ÷ _____ = _____

12 A father distributed 24 L.E. among his three sons equally.

Find the share of each son.



13 **Find the missing factor in each fact family and write four number sentences of the fact family.**



General Revision on Chapter 11

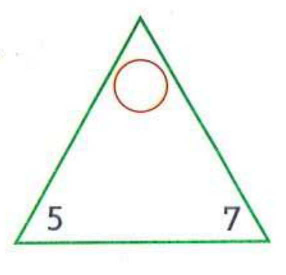
1 Solve the following multiplication problems.

a. 2 × 8 = ☐	b. 10 × 7 = ☐	c. 12 × 2 = ☐
d. 6 × 7 = ☐	e. 7 × 9 = ☐	f. 4 × 6 = ☐
g. 8 × 4 = ☐	h. 3 × 10 = ☐	i. 8 × 6 = ☐
j. 5 × 1 = ☐	k. 10 × 0 = ☐	l. 12 × 5 = ☐
m. 8 × 8 = ☐	n. 5 × 7 = ☐	o. 12 × 6 = ☐
p. 7 × 11 = ☐	q. 8 × 9 = ☐	r. 3 × 11 = ☐
s. 7 × 12 = ☐	t. 3 × 12 = ☐	u. 5 × 8 = ☐

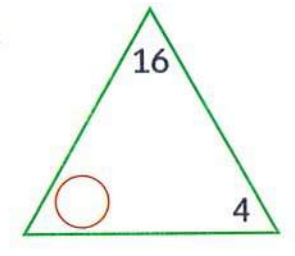
2 Record the missing number in the empty box.

a. 7 × ☐ = 14	b. ☐ × 3 = 15	c. ☐ × 9 = 27
d. ☐ ÷ 5 = 6	e. ☐ ÷ 3 = 2	f. 36 ÷ ☐ = 6
g. ☐ × 4 = 28	h. 3 × ☐ = 9	i. 12 ÷ ☐ = 2
j. 60 ÷ ☐ = 10	k. ☐ × 7 = 0	l. ☐ ÷ 4 = 1

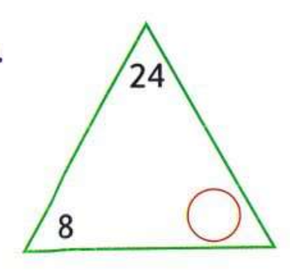
m.



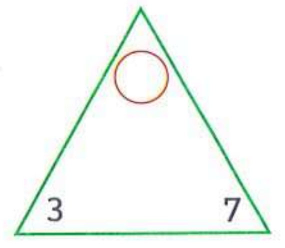
n.



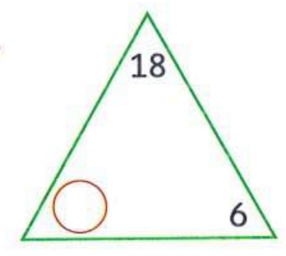
o.



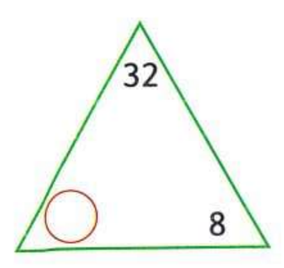
p.



q.



r.



3 Match the equal products.

a. 5×8 b. 4×5 c. 12×5 d. 6×8 e. 3×12

6×10 4×12 6×6 4×10 2×10

4 Compare the following using > , = or <.

a. 7×10 ◯ 6×11

b. 3×8 ◯ 4×6

c. 5×9 ◯ 4×12

d. 6×8 ◯ 5×10

e. 0×11 ◯ 1×3

f. 3×11 ◯ 4×8

g. 6×11 ◯ 7×8

h. 7×4 6×5

i. Perimeter of a square of side length 7 cm. ◯ Perimeter of a rectangle of length 9 cm and width 5 cm.

j. Area of a square of side length 9 cm. ◯ Area of a rectangle of length 10 cm and width 8 cm.

5 **Solve the following story problems.**

a. Ayman has 18 pens, he distributed them among 6 of his friends. How many pens each friend will get ?

____

b. Ahmed donates 12 pounds each week for 57357 Hospital. How much will he donate in 8 weeks ?

____

c. Ibrahim has 5 boxes full of toys, if each box has 7 toys. How many toys are with Ibrahim ?

____

d. Norhan distributed 36 apples among 9 plates. How many apples are there in each plate ?

____

6 **Create a story problem that could be represented by the equation shown, then solve it.**

a. $8 \times 4 =$ ______

____

____

____

b. $30 \div 6 =$ ______

____

____

____

c. $9 \times 6 =$ ______

____

____

____

d. $42 \div 7 =$ ______

____

____

____

7 Draw a sketch of a rectangle of length 5 cm and width 3 cm and another square that has side length of 3 cm. Calculate the perimeter and the area of each shape, then lay the two shapes side by side and calculate the perimeter and total area of the new shape.

8 **Calculate the perimeter and the area of each of the following figures.**

a. ______________________________

____

____

____

____

7 cm
4 cm
5 cm
10 cm
6 cm
12 cm

b. ______________________________

____

____

____

____

8 cm
3 cm
7 cm
5 cm
4 cm
3 cm

9 Draw a square with a side length of 6 cm, calculate the area and the perimeter of the square, then draw a rectangle with the same perimeter of the square and label the sides.

10 Calculate the perimeter of each of the following rectangles.

a. ______________________

____

____

____

Area = 32 square cm

8 cm

b. ______________________

____

____

____

Area = 72 square cm

9 cm

General Revision on Chapter 12

1 Complete the following.

a.

1. Number of all parts = ______

2. Number of colored parts = ______

3. Number of uncolored parts = ______

4. The fraction which represents the colored parts = ______

b.

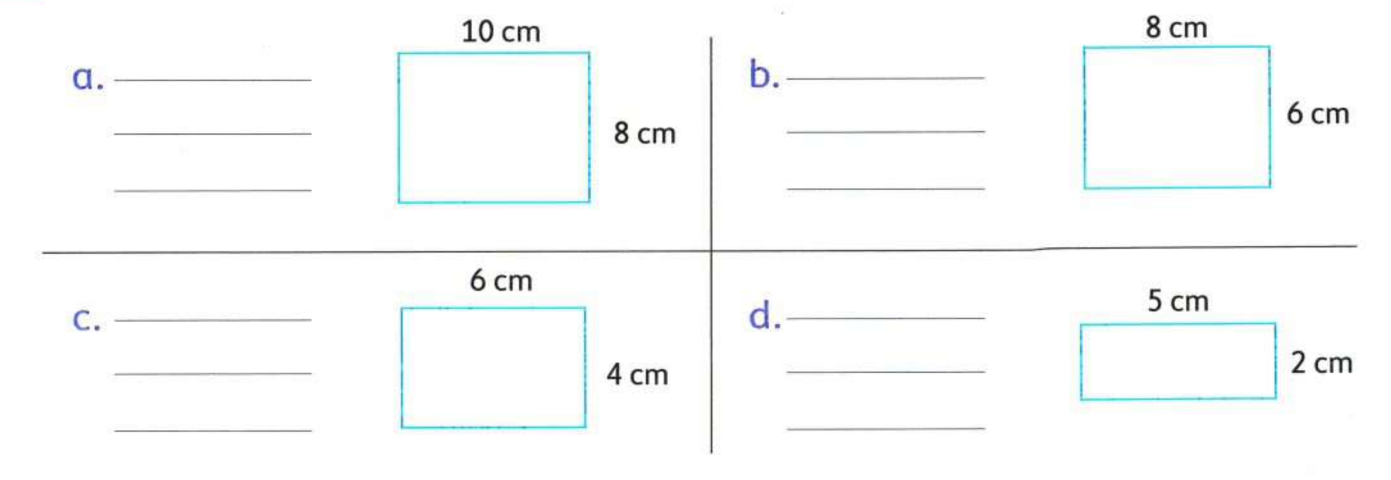
1. Number of all parts = ______

2. Number of colored parts = ______

3. Number of uncolored parts = ______

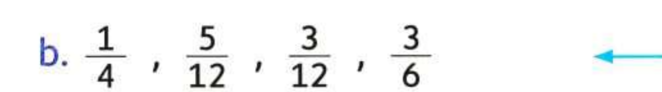
4. The fraction which represents the colored parts = ______

2 Find the half of area of each of the following rectangles.



3 Put the following fractions on the number line.

a. $\frac{5}{8}$, $\frac{0}{7}$, $\frac{1}{4}$, $\frac{1}{2}$



b. $\frac{1}{4}$, $\frac{5}{12}$, $\frac{3}{12}$, $\frac{3}{6}$

c. $\frac{5}{5}$, $\frac{7}{10}$, $\frac{2}{4}$, $\frac{1}{2}$

4 **Complete.**

a. 200,000 + 20,000 + 7 + 500 = ________ (in standard form)

b. 708,241 = ______ + ______ + ______ + ______ + ______ (in expanded form)

c. Five hundred forty-nine thousoud, five hundred thirty = ______ (in standard form)

d. The place value of the digit 6 in the number 621,047 is ______

e. The value of the digit 2 in the number 152,069 is ______

f. 830,006 is ______ (in word form)

g. The greatest number formed from the digits 7 , 9 , 1 , 3 is ______

h. The smallest number formed from the digits 7 , 0 , 3 , 1 , 8 is ______

5 a. Write the following numbers in order from least to greatest.

702,412 | 421,720 | 399,999 | 10,421

The order is : ________ , ________ , ________ , ________

b. Write the following numbers in order from greatest to least.

98,374 | 374,298 | 987 | 347,982

The order is : ________ , ________ , ________ , ________

6 **Complete the table below.**

	Start time	End time	Elapsed time
a.	________	2 : 30 P.M.	3 hours and 20 minutes
b.	2 : 45 A.M.	3 : 25 A.M.	________
c.	7 : 15 P.M.	________	2 hours and 10 minutes
d.	________	4 : 10 P.M.	3 hours and 15 minutes

7 **Compare using "> , < or =".**

a. 7,345 ◯ 3,951

b. 5 thousands ◯ 500 hundreds

c. 78,540 ◯ 70,000 + 8,000 + 500 + 40

d. 85,421 ◯ eighty six thousand, four hundred forty

e. 37 thousands ◯ 370 hundreds

---

8 Reham needs to paint a wall equally with two different colors. The wall is 8 meters by 4 meters. How much should she paint with one color ? Explain your work.

____

____

____

---

9 A T.V. show started at 7:30 P.M. and ended at 10:20 P.M. How long the T.V. show lasted ?

____

____

____

---

10 **Answer the following.**

a. Omar has a piece of paper in the shape of a rectangle of dimensions 5 cm and 4 cm, he colored half the paper in red.

What is the area of the colored part ?

____

____

b. Sara is wrapping presents. She needs 18 square units to wrap one present. **How many presents can she wrap if her paper is 5 units long by 3 units wide ?**

____

____

c. Shadya is wrapping presents. She needs 32 square units to wrap one present. **How many presents can she wrap if her paper is 8 units long by 6 units wide ?**

____

____

d. Fatma ate $\frac{3}{5}$ of a pizza and Mohamed ate $\frac{3}{8}$ of it.
Who ate more pizza ?

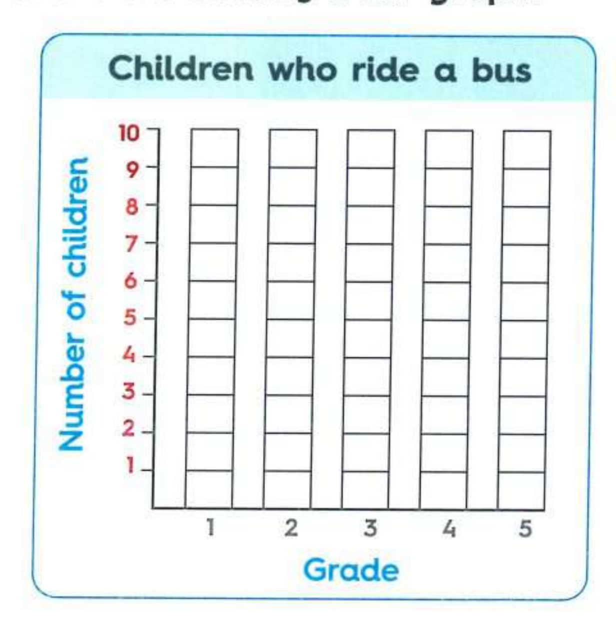
____

____

11 **The following data shows the number of children who ride a bus to school from grade 1 to grade 5. Represent the data by a bar graph.**

Riding a bus to school

Grade	Number of children	Number
1	𝍸 𝍸	____
2	𝍸	____
3	𝍸 I	____
4	IIII	____
5	𝍸 III	____



Answer the following questions :

a. Which grade has the most children ride a bus to school ? ____

b. How many children in grade 2 and grade 5 ? ____

c. What is the difference between the total number of odd and even grades ? ____

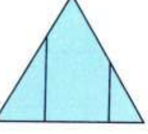
Fourth Final Assessments

Model 1

1 **Choose the correct answer :**

(1) $(5 \times 8) \times 3 =$ ______

A. 150 B. 140 C. 130 D. 120

(2) The shape  is divided into ______ parts.

A. 3 equal B. 2 unequal C. 3 unequal D. 2 equal

(3) $\frac{1}{2} =$ ______

A. $\frac{3}{7}$ B. $\frac{4}{8}$ C. $\frac{5}{9}$ D. $\frac{1}{4}$

(4) $\frac{1}{4} \square \frac{1}{9}$

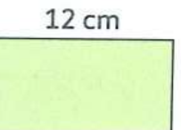
A. $>$ B. $<$ C. $=$

(5) ______ $\times 8 = 64$

A. 8 B. 6 C. 7 D. 4

(6) $7 \times 13 =$ ______

A. 87 B. 91 C. 84 D. 77

(7) The area of the rectangle 

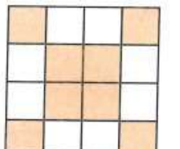
6 cm is ______ square cm.

A. 72 B. 66 C. 60 D. 78

---

2 **Complete.**

(1) $\frac{2}{9} + \frac{4}{9} =$ ______

(2) The fraction that represents the colored part in the figure  is ______

(3) ______ $\div 7 = 2$

(4) One whole = ______ fifths.

(5) $\frac{\quad}{\quad}$ of the set are cars.

(6) $\frac{12}{42} = \frac{\quad}{7}$

(7) $7 \times 0 =$ ______

(8) The side length of a square whose perimeter is 16 cm is ______ cm.

3 Choose the correct answer :

(1) The value of the digit 2 in the number 210,346 is ______

A. 2,000 B. 200 C. 200,000 D. 20,000

(2) $5 \times (7 \times$ ______ $) = 35$

A. 35 B. 7 C. 1 D. 5

(3) The length of the rectangle whose width 4 cm and perimeter 20 cm equals ______ cm.

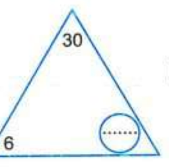
A. 5 B. 6 C. 16 D. 10

(4) $\frac{5}{8} - \frac{2}{8} =$ ______

A. $\frac{3}{8}$ B. $\frac{3}{16}$ C. 3 D. $\frac{7}{8}$

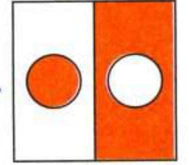
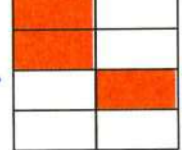
(5) $\frac{1}{3}$ of 9 ☐ $\frac{1}{9}$ of 27

A. $<$ B. $>$ C. $=$

(6) The missing factor of the fact family  is ______

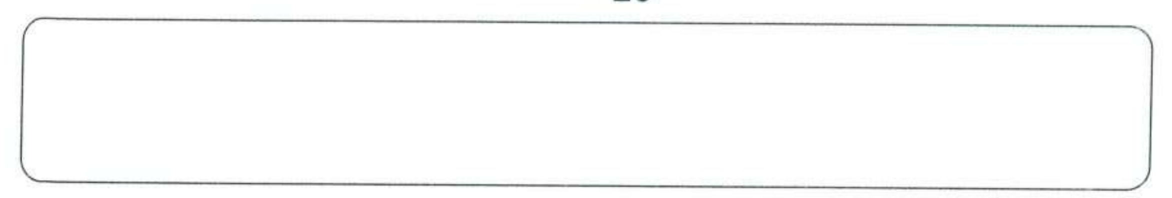
A. 6 B. 3 C. 5 D. 10

(7) Circle the shape that shows one half colored.

A. B.  C.  D.

4 Answer the following.

(1) Draw a number line and represent $\frac{9}{10}$ on it.



(2) Jana had 136 L.E. She gave 100 L.E. to charity and distributed the rest among her 4 friends equally.

How much money did each friend get ?

____

____

(3) Ahmed started his karate practice at 05 : 20 P.M. He finished the practice at 06 : 30 P.M. **What is the elapsed time ?**

____

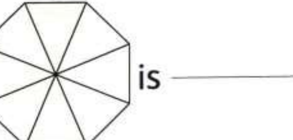
(4) **Write the following numbers in the standard form.**

a. Thirty-five thousand, six hundred and forty = ________

b. 700,000 + 4,000 + 200 + 15 = ________

Model 2

1 Choose the correct answer :

(1) The fraction that represents the colored part  is ______

A. $\frac{1}{2}$ B. $\frac{4}{8}$ C. $\frac{3}{8}$ D. $\frac{1}{3}$

(2) ______ $< \frac{1}{6}$

A. $\frac{1}{4}$ B. $\frac{1}{5}$ C. $\frac{1}{7}$ D. $\frac{1}{3}$

(3) $4 \times (6 \times 7) = (4 \times$ ______ $) \times 7$

A. 6 B. 42 C. 4 D. 28

(4) $\frac{3}{7} = \frac{18}{___}$

A. 42 B. 21 C. 18 D. 49

(5) 175,500 ☐ 175,055

A. > B. < C. =

(6) $6 \times$ ______ $= 54$

A. 6 B. 8 C. 5 D. 9

(7) $9 \times 16 =$ ______

A. 160 B. 140 C. 144 D. 128

2 Complete.

(1) $1 = \frac{___}{10}$

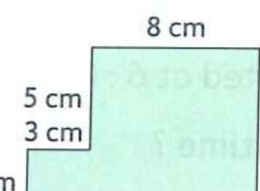
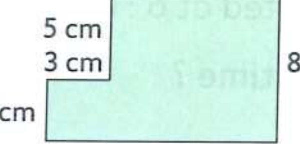
(2) The fraction whose numerator is 1 and its denominator is 7 is ______

(3) $35 \div$ ______ $= 5$

(4) The place value of the digit 5 in the number 251,627 is ______

(5) $\frac{7}{10} - \frac{4}{10} =$ ______

(6) The perimeter of the figure

is ______ cm.

(7) $\frac{1}{7}$ of $14 =$ ______

(8) $\frac{0}{5} =$ ______

---

3 Choose the correct answer :

(1) Half the area of the rectangle

8 cm
2 cm

is ______ square cm

A. 40 B. 32 C. 8 D. 16

(2) $8 \times 5 + 8 \times 8 =$ ______ $\times$ ______

A. 5×16 B. 5×8 C. 8×13 D. $5 \times 8 \times 8$

(3) The smallest number formed from 3 , 5 , 7 , 0 , 9 , 2 is ______

A. 975,320 B. 235,790 C. 209,753 D. 203,579

(4) $2 \times (3 \times$ ______ $) = 30$

A. 6 B. 5 C. 15 D. 10

(5) Half a strawberry ☐ half of an apple.

A. > B. < C. =

(6) $\frac{7}{11} =$ ______ $- \frac{3}{11}$

A. $\frac{10}{11}$ B. 1 C. $\frac{3}{11}$ D. $\frac{4}{11}$

(7) The area of the figure

3 cm

is ______ square cm.

A. 24 B. 9 C. 36 D. 12

4 Answer the following.

(1) A comedy movie started at 6 : 00 P.M. and ended at 8 : 25 P.M.

What is the elapsed time ?

____

(2) Arrange the following from the least to the greatest.

5×15 , $2 \times 7 \times 8$, 9×12 , 6×10

The order is : ________ , ________ , ________ , ________

(3) Eslam divided his toys into 8 eighths, he gave his sister $\frac{3}{8}$ of the toys.

What fraction of toys is left with him ?

____

(4) **Write the fact family of each of the following :**

a. 7 , 3 , 21

____

b. 10 , 5 , 2

____

Model 3

1 Choose the correct answer :

(1) The shape (a circle divided by two lines) is divided into ______ equal parts.

A. 3 B. 4 C. 5 D. 6

(2) $\frac{2}{3} <$ ______

A. $\frac{2}{2}$ B. $\frac{2}{4}$ C. $\frac{1}{3}$ D. $\frac{2}{5}$

(3) ______ $\times 8 = 24$

A. 4 B. 3 C. 2 D. 6

(4) The perimeter of the rectangle whose length is 9 cm and its width is 7 cm is ______ cm.

A. 36 B. 63 C. 32 D. 16

(5) $\frac{1}{6} =$ ______

A. $\frac{1}{12}$ B. $\frac{2}{3}$ C. $\frac{3}{9}$ D. $\frac{5}{30}$

(6) The area of the figure (rectangle: 7 cm, 2 cm) is ______ square cm.

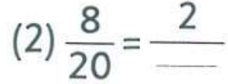
A. 20 B. 18 C. 28 D. 14

(7) $\frac{3}{7} + \frac{1}{7} =$ ______

A. $\frac{4}{7}$ B. $\frac{4}{14}$ C. $\frac{2}{7}$ D. $\frac{2}{14}$

2 Complete.

(1) The name of the equal parts in the shape (a circle divided by one line) is ______



(2) $\frac{8}{20} = \frac{2}{____}$

(3) $8 \times 14 =$ ______

(4) 48 ÷ ________ = 6

(5) The place value of the digit 2 in the number 372,061 is ________

(6) 1 = ________ fourths.

(7) If the start time is 6 : 40 A.M. and the elapsed time is 3 hours and 5 minutes, then the end time is ________

(8) $1 - \frac{5}{9} =$ ________

3 Choose the correct answer :

(1) 36 ÷ 4 = ________

A. 6 B. 9 C. 4 D. 7

(2) The greatest 5-different digit number is ________

A. one hundred thousand. B. 99,999

C. 10,234 D. 98,765

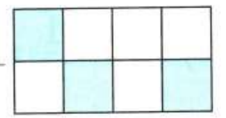
(3) Two sevenths = ________

A. $\frac{7}{2}$ B. $\frac{2}{7}$ C. 9 D. 14

(4) Half an hour ☐ half a day.

A. < B. = C. >

(5) The fraction that represents the colored part is ________



A. $\frac{3}{8}$ B. $\frac{3}{5}$ C. $\frac{5}{8}$ D. $\frac{5}{3}$

(6) The value of the digit 3 in the number 531,268 ________

A. 3,000 B. 30,000 C. 300,000 D. 3

(7) $\frac{1}{5}$ of 10 = ________

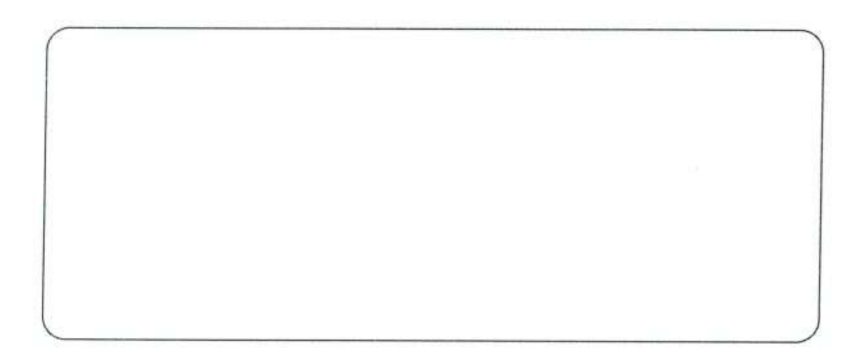
A. 50 B. 5 C. 20 D. 2

4 Answer the following.

(1) Complete the equivalent fractions.

$$\frac{3}{7} = \frac{__}{21} = \frac{15}{__} = \frac{21}{__}$$

(2) Draw a quadrilateral of perimeter 16 cm and label its sides.



(3) Represent $\frac{3}{10}$, $\frac{6}{10}$, $\frac{8}{10}$ on the number line.

(4) Arrange the following numbers in an ascending order :

35,825 , 9,352 , 82,532 , 900,000

The order is : ________ , ________ , ________ , ________

Model 4

1 **Choose the correct answer :**

(1) $\frac{1}{8}$ of 56 = ________

A. 6 B. 7 C. 8 D. 9

(2) $27 \div 9 =$ ________

A. 6 B. 5 C. 4 D. 3

(3) $3 \times 17 = 3 \times ($ ________ $+ 7)$

A. 10 B. 13 C. 7 D. 20

(4) $\frac{7}{20}$ ☐ $\frac{7}{18}$

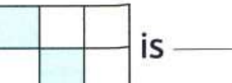
A. > B. < C. =

(5) $6 \times 7 =$ ________

A. 42 B. 21 C. 35 D. 49

(6) ________ $\times 9 = 18$

A. 8 B. 5 C. 9 D. 2

(7) The fraction which represents the colored part  is ________

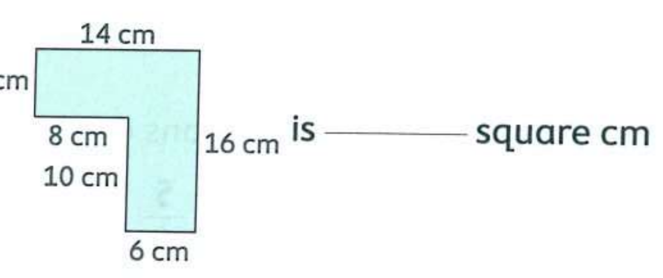
A. $\frac{1}{5}$ B. $\frac{1}{6}$ C. $\frac{1}{2}$ D. $\frac{1}{3}$

2 **Complete.**

(1) If $2 \times 6 = 12$, then ________ $\div 2 = 6$

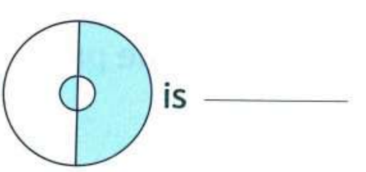
(2) $3 \times 4 \times 6 =$ ________

(3) 450,692 = ________ + ________ + ________ + ________ + ________
(in expanded form)

(4) The area of the shape  is ______ square cm

(5) $\frac{1}{4}$ of a day = ______ hours.

(6) $\frac{4}{12} + \frac{7}{12} =$ ______

(7) The fraction which represents the colored part  is ______

(8) $\frac{2}{6} = \frac{10}{__}$

3 Choose the correct answer :

(1) The greatest number formed from the digits 8 , 3 , 0 , 5 , 6 , 1 is ______

A. 830,561 B. 865,310 C. 830,156 D. 856,310

(2) 700 Hundreds = ______ Tens.

A. 7,000 B. 700 C. 70,000 D. 70

(3) The digit in my Tens place is 5 more than the digit in my Ten Thousands place who am I ?

A. 361,213 B. 123,475 C. 13,820 D. 32,075

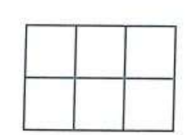
(4) There are ______ sevenths in one whole.

A. 3 B. 7 C. 4 D. 1

(5) 500 + 0 + 0 + 9 = ______

A. 500,009 B. 509 C. 59 D. 5,009

(6) The perimeter of the opposite figure = ______ units.



A. 10 B. 6 C. 17 D. 3

(7) $2 \times 12 =$ ______ $\times 6$

A. 2 B. 24 C. 3 D. 4

4 Answer the following.

(1) Represent the following fractions on the number line

$$\frac{1}{2}, \frac{5}{6}, \frac{8}{8}, \frac{1}{3}$$

(2) Ayman bought 7 pens for 49 L.E.

What is the price of each pen ?

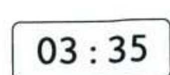
____

(3) Arrange the following numbers from least to greatest.

542,620 , 54,620 , 389,677 , 21,000 , 143,800

The order is : ________ , ________ , ________ , ________ , ________

(4) Draw the hands of the analog clock according to the time shown on the digital clock.



Model 5

1 **Choose the correct answer :**

(1) $\frac{1}{2}$ = ...

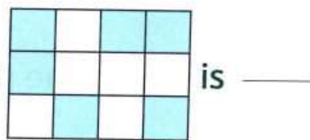
A. $\frac{1}{5}$ B. $\frac{10}{20}$ C. $\frac{6}{10}$ D. $\frac{8}{9}$

(2) $\frac{1}{3}$ of 30 = ...

A. 10 B. 5 C. 6 D. 3

(3) 9×12 = ...

A. 108 B. 120 C. 180 D. 60

(4) The fraction which represents the colored part  is ....

A. $\frac{5}{6}$ B. $\frac{6}{6}$ C. $\frac{1}{2}$ D. $\frac{5}{12}$

(5) 1 ☐ $\frac{3}{8}$

A. > B. < C. =

(6) $\frac{12}{17} - \frac{5}{17}$ = ...

A. $\frac{17}{17}$ B. $\frac{7}{17}$ C. $\frac{7}{34}$ D. $\frac{17}{34}$

(7) 6×1 = ...

A. 6 B. 7 C. 5 D. 8

---

2 **Complete.**

(1) $8 \times 1 \times 7$ = ...

(2) If the elapsed time is 2 hours and 10 minutes and the end time is 5 : 45 P.M., then the start time is ....

(3) $\frac{4}{7} + \frac{\text{——}}{7} = 1$

(4) ______ $\times 5 = 45$

(5) 1 = ______ ninths.

(6) $\frac{10}{10} = \frac{\text{——}}{7}$

(7) The area of a rectangle is 24 square cm and its width is 4 cm, then its length = ______ cm.

(8) $28 \div 4 =$ ______

3 Choose the correct answer :

(1) The value of the digit 3 in the number 125,636 is ______

A. 30 B. 300 C. 3,000 D. 30,000

(2) If the price of one pen is 5 L.E., then the price of 10 pens = ______ L.E.

A. 5 B. 2 C. 15 D. 50

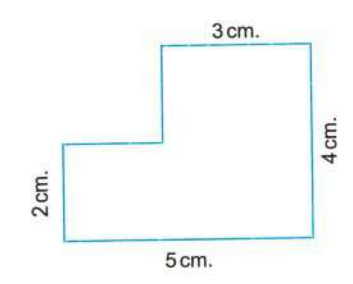
(3) $2 \times 3 \times 5 =$ ______ $\times 10$

A. 3 B. 2 C. 5 D. 30

(4) The digit in the Ten Thousands place in the number 305,219 is ______

A. 5 B. 3 C. 0 D. 1

(5) The perimeter of the opposite figure is ______ cm.



A. 14 B. 18
C. 20 D. 16

(6) If $56 \div 8 = 7$, then ______ $\times 7 = 56$

A. 7 B. 56 C. 6 D. 8

(7) Three thousand and three in standard form is ______

A. 303,000 B. 3,030 + 3 C. 303 D. 3,003

4 **Answer the following.**

(1) **Put "> , < or =".**

a. $\frac{2}{5}$ ☐ $\frac{2}{8}$

b. $\frac{1}{4}$ of 12 ☐ $\frac{1}{2}$ of 10

c. 250,003 ☐ 250,030

d. $\frac{3}{19} + \frac{6}{19}$ ☐ $\frac{12}{19} - \frac{3}{19}$

(2) **Draw.**

a. A shape and divide it into ninths.

b. A shape and divide it into fifths.

(3) Amal bought 3 kilograms of banana for 12 L.E. each and 1 kilogram of apple for 25 L.E. **How much money did she pay ?**

____

____

(4) The digit in my Hundreds place is 2 and my Thousands place has a 4. If the digit in my Tens and Ones places is 8 , then who am I ?

____

____

Model 6

1 **Choose the correct answer :**

(1) The shape (an oval divided by two lines) is divided into ______

A. halves. B. thirds. C. fourths. D. fifths.

(2) If $32 \div 8 = 4$, then ______ $\times 8 = 32$

A. 4 B. 8 C. 12 D. 6

(3) $5 \times 7 \times 6 =$ ______

A. 201 B. 210 C. 120 D. 180

(4) $\frac{3}{6} <$ ______

A. $\frac{2}{6}$ B. $\frac{3}{8}$ C. $\frac{4}{6}$ D. $\frac{1}{6}$

(5) The perimeter of the square (5 cm, 5 cm) is ______

A. 18 B. 20 C. 25 D. 14

(6) ______ $\div 5 = 10$

A. 40 B. 45 C. 50 D. 60

(7) $7 \times 19 =$ ______

A. $7 \times 10 \times 9$ B. $7 \times (10 + 9)$ C. $7 \times 10 + 9$ D. $7 \times 10 + 7$

2 **Complete.**

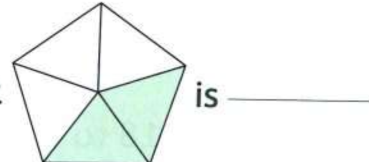
(1) $10 \times 9 =$ ______

(2) $0 = \frac{\quad}{15}$

(3) $\frac{7}{20} + \frac{6}{20} =$ ______

(4) ______ = 100,000 + 70,000 + 400 + 80 + 6

(5) Half the area of a rectangle, if its length is 6 cm and its width is 2 cm = ______ square cm.

(6) The fraction of the colored part  is ______

(7) If the start time is 1 : 05 P.M. and the elapsed time is 6 : 35, then the end time is ______

(8) $\frac{8}{24} = \frac{\quad}{3}$

3 Choose the correct answer :

(1) $\frac{1}{3}$ of an hour ☐ $\frac{1}{3}$ of a day

A. > B. < C. =

(2) $\frac{1}{5}$ of ______ = 5

A. 5 B. 20 C. 25 D. 1

(3) The value of the digit 0 in the number 805,315 is ______

A. Ten Thousands. B. 10,000

C. 0 D. Thousands.

(4) 51,003 ☐ nineteen thousands

A. > B. < C. =

(5) ______ + $\frac{2}{9}$ = 1

A. 7 B. $\frac{7}{9}$ C. 1 D. $\frac{2}{9}$

(6) The greatest number formed from 3 , 5 , 7 , 0 , 9 is ______

A. 30,579 B. 90,730 C. 97,530 D. 95,730

(7) Half = $\frac{\quad}{14}$

A. 7 B. 6 C. 4 D. 10

4 Answer the following.

(1) Mustafa bought 9 books for 17 L.E. each.

How much money did he pay ?

____

(2) Use the numbers 3 , 6 , 18 to write the fact family.

____

____

____

____

(3) Dina ate $\frac{2}{10}$ of her pie, the next day she ate $\frac{4}{10}$ of the same pie.

What fraction did she eat ?

____

(4) Ahmed has 12 sweets, he wanted to divide them among his 6 friends equally. **How many sweets will each friend get ?**

____

Model 7

1 Choose the correct answer :

(1) Two hundred thirty - one thousand, sixty - eight = ________

A. 231,680 B. 23,168 C. 31,068 D. 231,068

(2) The area of a square of side length 9 cm is ________ square cm.

A. 40 B. 81 C. 80 D. 50

(3) $9 \times 15 =$ ________

A. 144 B. 135 C. 108 D. 160

(4) The perimeter of the shape (8 cm, 5 cm, 8 cm, 10 cm, 5 cm, 16 cm) is ________ cm.

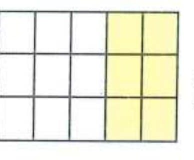
A. 26 B. 44 C. 52 D. 49

(5) $\frac{4}{9}$ ☐ $\frac{4}{7}$

A. > B. < C. =

(6) $\frac{13}{15} - \frac{12}{15} =$ ________

A. $\frac{1}{15}$ B. $\frac{1}{10}$ C. $\frac{1}{30}$ D. $\frac{1}{5}$

(7) The fraction of the colored part in  is ________

A. $\frac{1}{15}$ B. $\frac{6}{15}$ C. $\frac{2}{15}$ D. $\frac{1}{2}$

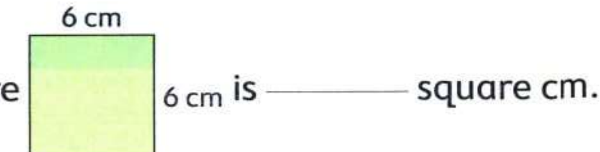
2 Complete.

(1) $63 \div$ ________ $= 7$

(2) $\frac{1}{6}$ of 24 = ________

(3) $\frac{1}{9} + \frac{4}{9} =$ ________

(4) $\frac{1}{2}$ is equivalent to ________ tenths.

(5) The area of the square 

is ______ square cm.

(6) The least number formed from the digits 4 , 8 , 2 , 5 , 3 , 0 is ______

(7) The value of the digit 9 in the number 394,216 is ______

(8) $1 = \frac{15}{___}$

3 Choose the correct answer :

(1) 780,233 ☐ 90,000 + 9,000 + 700 + 80 + 4

A > B. < C. =

(2) $\frac{10}{18} = \frac{5}{___}$

A 8 B. 10 C. 9 D. 6

(3) Quarter a watermelon ☐ quarter a lemon.

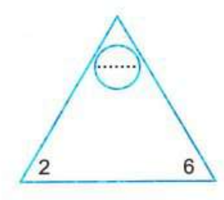
A > B. < C. =

(4) The fraction represented on the number line is ______

0 1

A. $\frac{5}{9}$ B. $\frac{1}{3}$ C. $\frac{1}{4}$ D. $\frac{3}{10}$

(5) The missing factor of the fact family is ______



A. 2 B. 3

C. 4 D. 12

(6) The elapsed time between the two clocks 12 : 50 → 01 : 40 = ______

A. 1 hour and 10 minutes. B. 1 hour and 50 minutes.

C. 50 minutes. D. 1 hour and 10 minutes.

(7) The fraction $\frac{3}{5}$ has ______ in its denominator.

A. 3 B. 5 C. 2 D. 8

4 **Answer the following.**

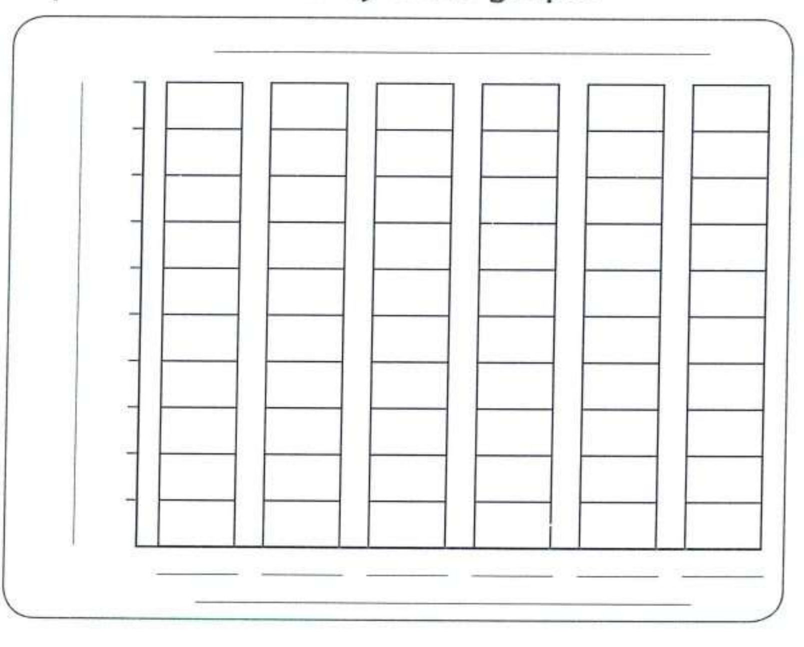
(1) There are 8 bags, each bag has 4 boxes and each box has 10 marbles.

How many marbles in all ?

____

(2) Complete the table, then represent the data by a bar graph.

Ages of children in music class		
Age in years	**Tally**	**Number**
7	||||	______
8	||||	______
9	||	______
10	~~||||~~ |	______
11	|||	______
12	|||	______



(3) **Answer the questions :**

a. How many children in the class are 7 years ? ________ children.

b. What age is the greatest number of children ? ________ years old.

c. How many children are even years old ? ________ children.

d. How many children are in music class in all ? ________ children.

(4) Arrange the following numbers from greatest to least :

$\frac{2}{9}$, $\frac{2}{5}$, $\frac{2}{7}$, 1

The order is : ________ , ________ , ________ , ________

Model 8

1 Choose the correct answer :

(1) $6 \times 19 =$ ______

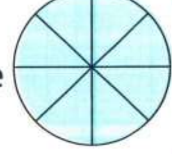
A. 120 B. 114 C. 100 D. 60

(2) $\frac{1}{7}$ ☐ $\frac{1}{4}$

A. $>$ B. $<$ C. $=$

(3) $3 \times 7 \times 4 =$ ______

A. 84 B. 49 C. 40 D. 33

(4) The shape  is divided into ______

A. sixths. B. fourths. C. eighths. D. tenths.

(5) $\frac{1}{2} =$ ______

A. $\frac{2}{5}$ B. $\frac{7}{14}$ C. $\frac{3}{8}$ D. $\frac{6}{10}$

(6) $6 \times$ ______ $= 30$

A. 5 B. 6 C. 4 D. 7

(7) Half the area of [rectangle: 6 cm, 4 cm] is ______ square cm.

6 cm

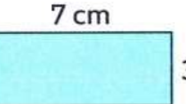
4 cm

A. 12 B. 6 C. 14 D. 16

2 Complete.

(1) $0 \times 6 =$ ______

(2) $\frac{1}{14} + \frac{6}{14} =$ ______

(3) The area of the rectangle  is ______ square cm.

(4) If the start time is 6 : 30 A.M. and the end time is 11 : 35 A.M. , then the elapsed time is ....

(5) $\frac{21}{30} = \frac{\text{.....}}{10}$

(6) The side length of the square whose perimeter is 28 cm is .... cm.

(7) .... $\div 6 = 8$

(8) .... $= 300,000 + 4,000 + 700 + 10 + 6$

---

3 Choose the correct answer :

(1) The value of the digit 5 in the number 528,046 is ....

A. 500,000 B. 50,000 C. 5,000 D. 500

(2) $\frac{2}{5}$ ☐ $\frac{2}{9}$

A. < B. = C. >

(3) The greatest 5- different digits number is ....

A. 99,999 B. 98,765 C. 10,000 D. 10,234

(4) $\frac{3}{3} +$ .... $= 1$

A. 1 B. $\frac{1}{3}$ C. 0 D. $\frac{7}{7}$

(5) $\frac{1}{3}$ of 12 = ...

A. 4 B. 3 C. 36 D. 15

(6) $(2 \times 2) + (2 \times 2) =$ ....

A. 16 B. 4×4 C. 2×4 D. 4

(7) $5 \times 20 =$ .... $\times 10$

A. 2 B. 100 C. 10 D. 20

4 Answer the following.

(1) If the area of a rectangle is 54 square cm and its width is 6 cm.

Find its perimeter.

____

____

(2) Mahmoud has 64 L.E. He gave his brother $\frac{1}{8}$ of the money.

How much money did his brother take ?

____

(3) Mom gave Ahmed and Mustafa candy bars that were the same size.

Ahmed ate $\frac{2}{5}$ of his candy bar and Mostafa ate $\frac{6}{15}$ of his candy bar.

Who ate more of their candy bar ?

____

(4) Arrange the following numbers from least to greatest

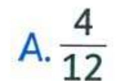
13,000 , twenty thousand , 5000 + 9 , 509

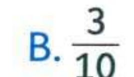
The order is : __________ , __________ , __________ , __________

Model 9

1 **Choose the correct answer :**

(1) $\frac{1}{3}$ = ...


A. $\frac{4}{12}$


B. $\frac{3}{10}$

C. $\frac{2}{4}$

D. $\frac{6}{20}$

(2) The area of the square (7 cm × 7 cm) is .... square cm.

A. 14

B. 28

C. 21

D. 49

(3) $\frac{2}{7}$ > ....

A. $\frac{2}{2}$ B. $\frac{4}{7}$ C. $\frac{2}{5}$ D. $\frac{2}{9}$

(4) .... × 8 = 72

A. 9 B. 8 C. 10 D. 7

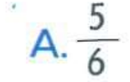
(5) The perimeter of a rectangle of length 12 cm and width 7 cm is .... cm.

A. 84 B. 38 C. 70 D. 19

(6) $\frac{5}{18} + \frac{3}{18}$ = ...

A. $\frac{8}{36}$ B. $\frac{2}{18}$ C. $\frac{8}{18}$ D. $\frac{2}{36}$

(7) The fraction of the colored part in the hexagon is ....


A. $\frac{5}{6}$

B. $\frac{1}{6}$

C. $\frac{5}{5}$

D. $\frac{1}{5}$

2 Complete.

(1) The name of the equal parts in ◯ is ________

(2) $\frac{3}{5} = \frac{15}{__}$

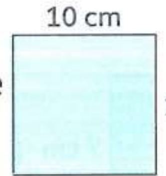
(3) The place value of the digit 6 in the number 268,840 is ________

(4) $1 - \frac{7}{10} =$ ________

(5) $7 \times 17 =$ ________

(6) The perimeter of the square

10 cm



10 cm

is ________ cm.

(7) 1 = ________ ninths.

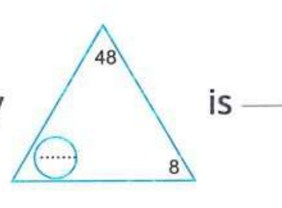
(8) ________ ÷ 6 = 7

3 Choose the correct answer :

(1) 40 ÷ 5 = ________

A. 10 B. 8 C. 7 D. 4

(2) The missing factor in the fact family



is ________

A. 8 B. 4 C. 7 D. 6

(3) Adam played football for 45 minutes. If he started at 3 : 45, then he finished at ________

A. 3 : 00 B. 4 : 45 C. 4 : 30 D. 4 : 15

(4) The smallest number formed from 9 , 5 , 0 , 3 , 4 is ________

A. 34,590 B. 95,430 C. 30,459 D. 40,359

(5) 18 Thousands + 15 Ones = ________

A. 18,150 B. 1,815 C. 180,015 D. 18,015

(6) 1×18 ☐ 18×1

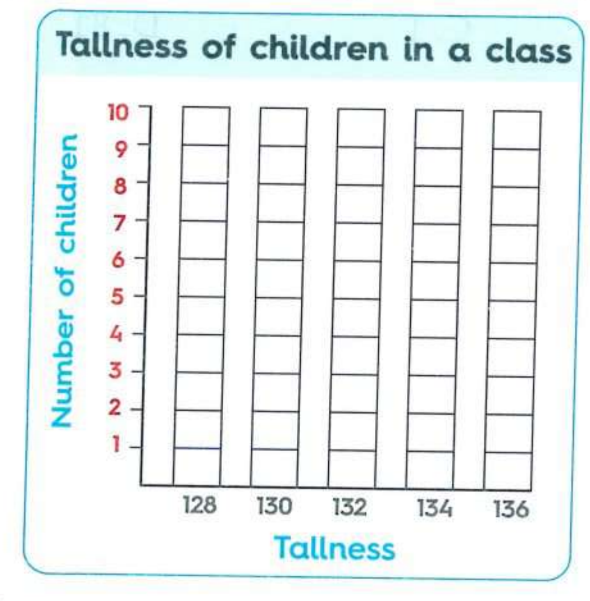
A. < B. > C. =

(7) $4 \times 5 \times 6 = ______ \times 4$

A. 20 B. 30 C. 24 D. 120

4 Answer the following.

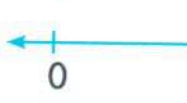
(1) Complete the table , then represent the data by a bar graph.

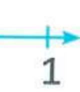


Tallness of children in a class		
Tallness	Tally	Number
128	||||	______
130	卌	______
132	卌 |	______
134	卌 |	______
136	卌 ||	______

(2) Represent the following fractions on the number line.

$\frac{2}{8}$, $\frac{4}{8}$, $\frac{7}{8}$, $\frac{0}{8}$





(3) Karim has 70 L.E. He gave his sister 20 L.E. and shared the rest with 4 of his friends. **What is the share of Karim ?**

____

____

(4) Calculate the perimeter of the opposite shape.

____

____

1 cm
4 cm
3 cm
8 cm
4 cm
4 cm

Model 10

1 Choose the correct answer :

(1) $\frac{1}{5}$ of 20 = ______

A. 4 B. 5 C. 100 D. 15

(2) $9 \times$ ______ $= 9$

A. 9 B. 0 C. 1 D. 81

(3) The perimeter of the rectangle [6 cm by 2 cm rectangle] is ______ cm.

A. 128 B. 16 C. 8 D. 12

(4) $16 \times 8 =$ ______

A. $(10 \times 6) + (8 \times 6)$ B. $(10 \times 8) + (10 \times 6)$

C. $(10 \times 8) + (6 \times 8)$ D. $(16 \times 10) + (16 \times 2)$

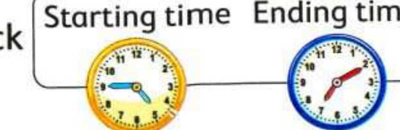
(5) The fraction of colored part of the figure is ______

A. $\frac{1}{2}$ B. $\frac{2}{3}$ C. $\frac{1}{3}$ D. $\frac{1}{4}$

(6) $\frac{5}{9} + \frac{3}{9} =$ ______

A. $\frac{1}{9}$ B. $\frac{8}{18}$ C. $\frac{8}{9}$ D. $\frac{2}{9}$

(7) The elapsed time shown by the analog clock



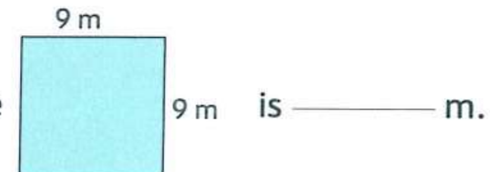
is ______

A. 2 hours and 25 minutes. B. 3 hours and 25 minutes.

C. 1 hour and 25 minutes. D. 2 hours and 35 minutes.

2 Complete.

(1) The place value of the digit 8 in the number 38,250 is ______

(2) The perimeter of the square 

is ______ m.

(3) $1 - ______ = \frac{3}{5}$

(4) ______ $\times 7 = 49$

(5) $8 \div ______ = 2$

(6) $\frac{3}{4} = \frac{___}{16} = \frac{9}{___}$

(7) $14 \times 4 = (______ \times 4) + (4 \times ______) = ______$

(8) The number 305,305 is read as ______

3 Choose the correct answer :

(1) There are ______ sevenths in one.

A. 4 B. 7 C. 5 D. 1

(2) $\frac{5}{7} > \frac{5}{___}$

A. 6 B. 5 C. 7 D. 8

(3) 9×8 ☐ 7×9

A. > B. < C. =

(4) 700 Hundreds = ______ Tens.

A. 70 B. 700 C. 70,000 D. 7,000

(5) $\frac{1}{4}$ a day = ______ hours.

A. 3 B. 6 C. $\frac{1}{4}$ D. 8

(6) $\frac{10}{20}$ = ________

A. $\frac{5}{4}$ B. $\frac{2}{10}$ C. $\frac{1}{2}$ D. $\frac{1}{5}$

(7) ________ $- \frac{3}{9} = \frac{5}{9}$

A. $\frac{2}{9}$ B. $\frac{8}{18}$ C. $\frac{8}{9}$ D. 1

4 Answer the following.

(1) **Put "> , < or =".**

a. The value of 2 in 253,173 ☐ the value of 5 in 58,929

b. $\frac{1}{8}$ of 8 ☐ $\frac{1}{4}$ of 12

c. $\frac{3}{8} + \frac{5}{8}$ ☐ $\frac{2}{3} + \frac{1}{3}$

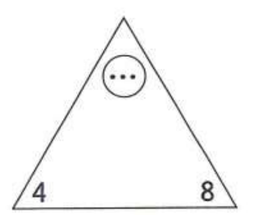
(2) Find the product and complete the number sentences of the fact family.

4 × 8 = ________

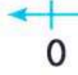
________ × ________ = ________

________ ÷ ________ = ________

________ ÷ ________ = ________

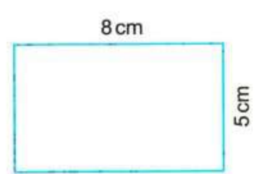


(3) Represent the fractions $\frac{1}{2}$, $\frac{1}{3}$, $\frac{2}{6}$, $\frac{3}{4}$, $\frac{8}{8}$ on the number line



0 1

(4) Calculate half the area of the opposite rectangle.



____

____

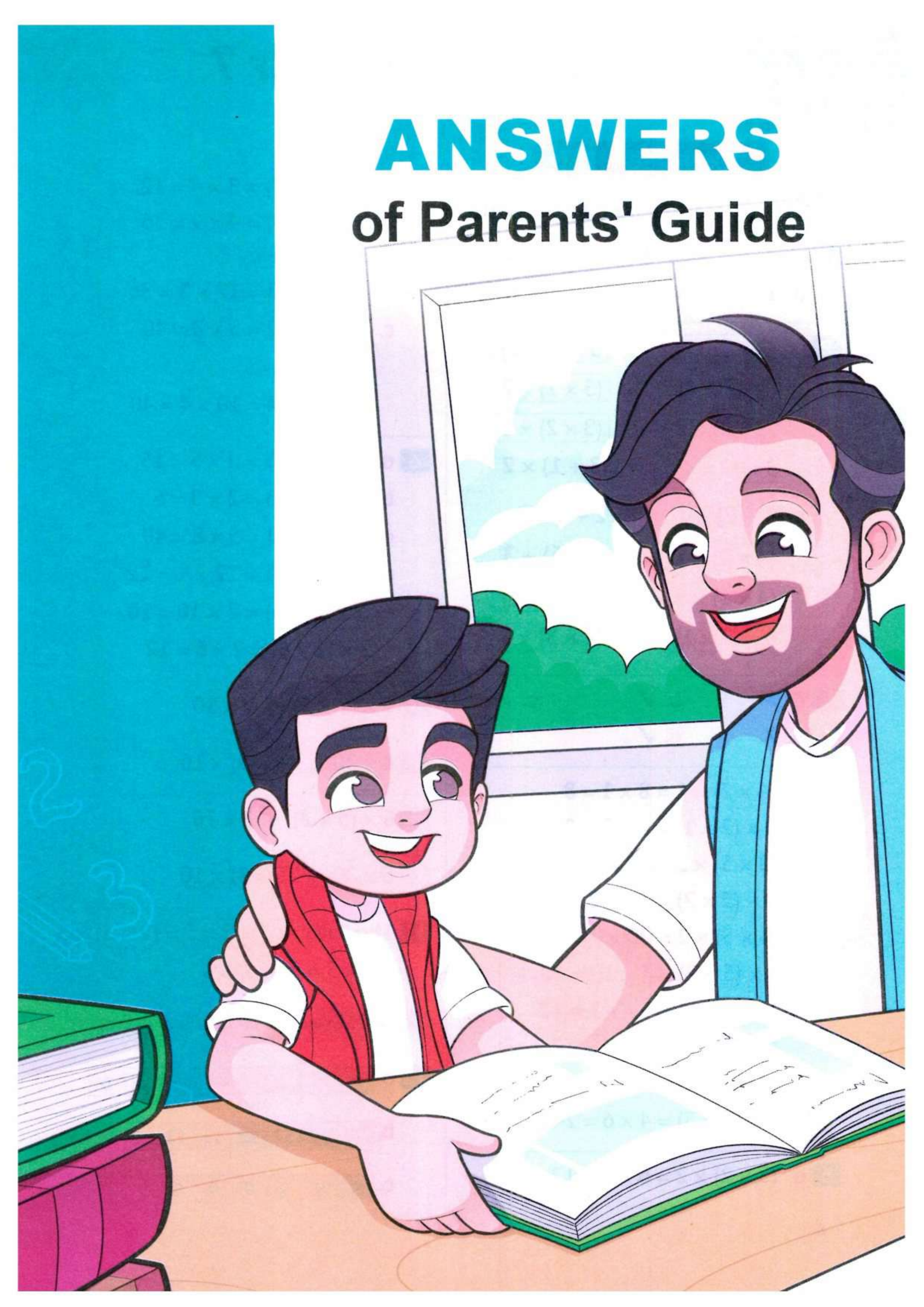
Mathematics

By a group of supervisors

GUIDE ANSWERS FREE PART

2

3rd PRIMARY
SECOND TERM
2025


ANSWERS
of Parents' Guide

Answers of Chapter 7

Exercise 1

First : Exercises on Associative Property

1 a. 3 b. 3 c. 4
d. 1 e. 2 f. 6

---

2 a. $\boxed{(3 \times 2) \times 4}$
$3 \times (2 + 4)$
$\boxed{(3 \times 4) \times 2}$
$\boxed{3 \times (2 \times 4)}$

b. $\boxed{3 \times (1 \times 2)}$
$\boxed{(3 \times 1) \times 2}$
$\boxed{(3 \times 2) \times 1}$
$(3 + 1) \times 2$

c. $(4 + 2) + 1$
$\boxed{(4 \times 2) \times 1}$
$\boxed{(4 \times 1) \times 2}$
$\boxed{4 \times (2 \times 1)}$

d. $2 + 5 + 3$
$(2 \times 5) + 3$
$\boxed{2 \times (5 \times 3)}$
$\boxed{(2 \times 3) \times 5}$

---

3 a. ✗ b. ✓ c. ✓
d. ✗ e. ✓

---

4 a. $(4 \times 2) \times 1 = 8 \times 1 = 8$
$4 \times (2 \times 1) = 4 \times 2 = 8$

b. $(3 \times 5) \times 2 = 15 \times 2 = 30$
$3 \times (5 \times 2) = 3 \times 10 = 30$

c. $(4 \times 5) \times 2 = 20 \times 2 = 40$
$4 \times (5 \times 2) = 4 \times 10 = 40$

d. $(6 \times 2) \times 1 = 12 \times 1 = 12$
$6 \times (2 \times 1) = 6 \times 2 = 12$

e. $(4 \times 2) \times 3 = 8 \times 3 = 24$
$4 \times (2 \times 3) = 4 \times 6 = 24$

---

5 a. $(3 \times 2) \times 2 = 6 \times 2 = 12$

Another way

$3 \times (2 \times 2) = 3 \times 4 = 12$

b. $4 \times (3 \times 3) = 4 \times 9 = 36$

Another way

$(4 \times 3) \times 3 = 12 \times 3 = 36$

c. $5 \times (2 \times 4) = 5 \times 8 = 40$

Another way

$(5 \times 2) \times 4 = 10 \times 4 = 40$

---

6 a. $(3 \times 1) \times 5 = 3 \times 5 = 15$

b. $(1 \times 2) \times 3 = 2 \times 3 = 6$

c. $5 \times (2 \times 4) = 5 \times 8 = 40$

d. $(4 \times 3) \times 1 = 12 \times 1 = 12$

e. $2 \times (2 \times 5) = 2 \times 10 = 20$

f. $2 \times (1 \times 6) = 2 \times 6 = 12$

---

7 $9 \times (2 \times 5)$, 9×10

---

8 4×30 , $(4 \times 3) \times 10$

---

9 $8 \times (5 \times 2)$, 8×10

---

10 5×30 , $(5 \times 3) \times 10$

---

11 The total $= 2 \times 3 \times 5 = (2 \times 3) \times 5$
$= 6 \times 5 = 30$ apples

Second : Exercises on Distributive Property

12 a.

6	6	6	6	6	6	6	6

b.

12	12	12	12	12	12	12	12	12

c.

9	9	9	9	9	9	9

d.

4	4	4	4	4	4

e.

7	7	7	7	7	7

f.

8	8	8	8	8	8	8	8

13 a. $7 \times 8 = 7 \times (5 + 3)$
$= (7 \times 5) + (7 \times 3)$

b. $5 \times 5 = 5 \times (4 + 1)$
$= (5 \times 4) + (5 \times 1)$

c. $11 \times 6 = 11 \times (3 + 3)$
$= (11 \times 3) + (11 \times 3)$

d. $8 \times 9 = 8 \times (4 + 5)$
$= (8 \times 4) + (8 \times 5)$

e. $6 \times 15 = 6 \times (10 + 5)$
$= (6 \times 10) + (6 \times 5)$

14 a.

6	6	6	6	6	6	6	6	6

$6 \times 9 = 6 \times (5 + 4)$
$= (6 \times 5) + (6 \times 4)$
$= 30 + 24 = 54$

b.

8	8	8	8	8	8

$8 \times 6 = 8 \times (5 + 1)$
$= (8 \times 5) + (8 \times 1)$
$= 40 + 8 = 48$

c.

9	9	9	9	9	9	9

$9 \times 7 = 9 \times (4 + 3)$
$= (9 \times 4) + (9 \times 3)$
$= 36 + 27 = 63$

d.

5	5	5	5	5	5	5	5

$5 \times 8 = 5 \times (4 + 4)$
$= (5 \times 4) + (5 \times 4)$
$= 20 + 20 = 40$

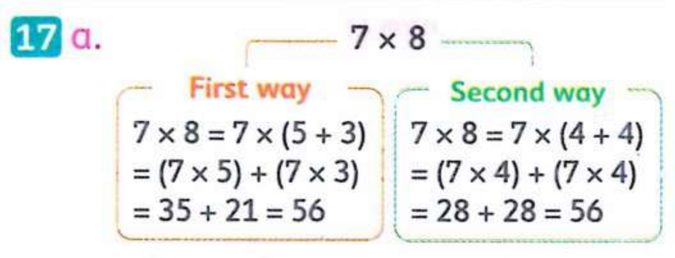
15 a , d , e , f

16 a. $8 \times 12 = 8 \times (10 + 2)$
(10) + (2)
$= (8 \times 10) + (8 \times 2)$
$= 80 + 16 = 96$

b. $7 \times 14 = 7 \times (10 + 4)$
(10) + (4)
$= (7 \times 10) + (7 \times 4)$
$= 70 + 28 = 98$

c. $3 \times 16 = 3 \times (10 + 6)$
(10) + (6)
$= (3 \times 10) + (3 \times 6)$
$= 30 + 18 = 48$

17 a.

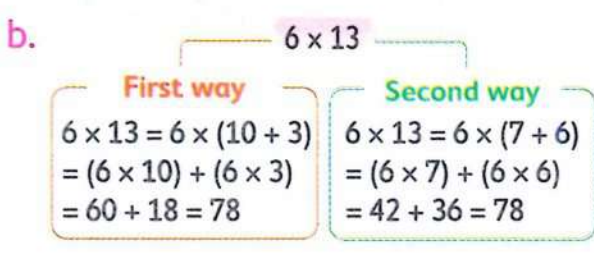


7×8

First way
$7 \times 8 = 7 \times (5 + 3)$
$= (7 \times 5) + (7 \times 3)$
$= 35 + 21 = 56$

Second way
$7 \times 8 = 7 \times (4 + 4)$
$= (7 \times 4) + (7 \times 4)$
$= 28 + 28 = 56$

b.

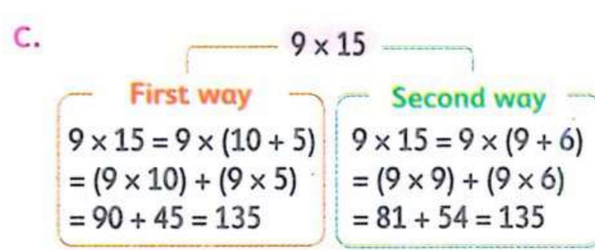


6×13

First way
$6 \times 13 = 6 \times (10 + 3)$
$= (6 \times 10) + (6 \times 3)$
$= 60 + 18 = 78$

Second way
$6 \times 13 = 6 \times (7 + 6)$
$= (6 \times 7) + (6 \times 6)$
$= 42 + 36 = 78$

c.

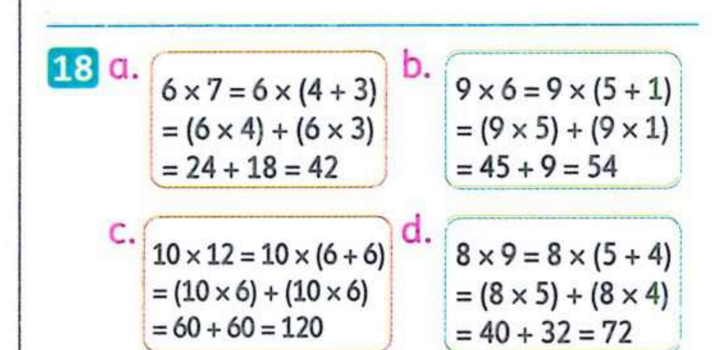


9×15

First way
$9 \times 15 = 9 \times (10 + 5)$
$= (9 \times 10) + (9 \times 5)$
$= 90 + 45 = 135$

Second way
$9 \times 15 = 9 \times (9 + 6)$
$= (9 \times 9) + (9 \times 6)$
$= 81 + 54 = 135$

18



a.
$6 \times 7 = 6 \times (4 + 3)$
$= (6 \times 4) + (6 \times 3)$
$= 24 + 18 = 42$

b.
$9 \times 6 = 9 \times (5 + 1)$
$= (9 \times 5) + (9 \times 1)$
$= 45 + 9 = 54$

c.
$10 \times 12 = 10 \times (6 + 6)$
$= (10 \times 6) + (10 \times 6)$
$= 60 + 60 = 120$

d.
$8 \times 9 = 8 \times (5 + 4)$
$= (8 \times 5) + (8 \times 4)$
$= 40 + 32 = 72$

19 a. 2 b. 9 c. 10 d. 5

e. 6 , 3×10 , 3×6 , 30 , 18 , 48

f. 10 , 2 , 5×10 , 5×2 , 50 , 10 , 60

g. 10 , 3 , 4×10 , 4×3 , 40 , 12 , 52

h. 6 , 6 , 7×6 , 7×6 , 42 , 42 , 84

20 a. 6×10 b. 10 c. 8

d. 5×12 e. 28 f. 5×15

21 The correct answer is 3

He should break 5 into 2 and 3

He can solve the problem as

$3 \times 5 = (3 \times 2) + (3 \times 3)$

$2 + 3$

Exercise 2

Estimation may vary

1 a. 9×3

Estimation	Actual Solution
Suppose 9 as 10 $10 \times 3 = 30$ The actual product must be less than 30	$9 \times 3 = 27$

b. 8×4

Estimation	Actual Solution
Suppose 8 as 10 $10 \times 4 = 40$ The actual product must be less than 40	$8 \times 4 = 32$

c. 6×7

Estimation	Actual Solution
Suppose 7 as 10 $6 \times 10 = 60$ The actual product must be less than 60	$6 \times 7 = 42$

2 a. 8×12

Estimation	Actual Solution
Suppose 12 as 10 $8 \times 10 = 80$ The actual product must be more than 80	$8 \times 12 = 8 \times (10 + 2)$ Distributive property $= (8 \times 10) + (8 \times 2)$ $= 80 + 16 = 96$

b. 13×9

Estimation	Actual Solution
Suppose 9 as 10 $13 \times 10 = 130$ The actual product must be less than 130	$13 \times 9 = 9 \times 13 = 9 \times (10 + 3)$ Distributive property $= (9 \times 10) + (9 \times 3)$ $= 90 + 27 = 117$

c. 9×12

Estimation	Actual Solution
Suppose 9 as 10 $10 \times 12 = 120$ The actual product must be less than 120	$9 \times 12 = 9 \times (10 + 2)$ Distributive property $= (9 \times 10) + (9 \times 2)$ $= 90 + 18 = 108$

3 a. $4 \times 7 \times 5$

Estimation	Actual Solution
Suppose 7 as 10 $4 \times 10 \times 5 = (4 \times 5) \times 10$ $= 20 \times 10 = 200$ The answer must be less than 200	$(4 \times 5) \times 7$ Associative property $= 20 \times 7 = 140$

b. $8 \times 5 \times 4$

Estimation	Actual Solution
Suppose 8 as 10 $10 \times (5 \times 4) = 10 \times 20 = 200$ The answer must be less than 200	$8 \times (5 \times 4)$ Associative property $= 8 \times 20 = 160$

c. $2 \times 6 \times 10$

Estimation	Actual Solution
Suppose 6 as 5 $2 \times 5 \times 10$ $= (2 \times 5) \times 10$ $= 10 \times 10 = 100$ The answer must be more than 100	$(2 \times 6) \times 10$ Associative property $= 12 \times 10$ $= 120$

4 a. The problem equation : $8 \times 4 = \cdots$

Estimation	Actual Solution
Suppose 4 as 5 $8 \times 5 = 40$ legs The actual product must be less than 40	$8 \times 4 = 32$ legs

b. The problem equation : $8 \times 6 = \cdots$

Estimation	Actual Solution
Suppose 8 as 10 $10 \times 6 = 60$ eggs The actual product must be less than 60	$8 \times 6 = 48$ eggs

c. The problem equation : $15 \times 7 = \cdots$

Estimation	Actual Solution
Suppose 7 as 10 $15 \times 10 = 150$ minutes The actual product must be less than 150	$15 \times 7 = 7 \times 15$ $= 7 \times (10 + 5)$ $= (7 \times 10) + (7 \times 5)$ $= 70 + 35$ $= 105$ minutes

5 The problem equation : $4 \times 3 \times 2 = \cdots$

Estimate : 30	Actual Solution : 24
Suppose 4 as 5 $5 \times 3 \times 2 = 5 \times (3 \times 2)$ $= 5 \times 6 = 30$ buttons The actual product must be less than 30	$4 \times 3 \times 2 = 4 \times (3 \times 2)$ $= 4 \times 6 = 24$ buttons

Exercise 3

1

a. $4 \times 5 = 20$
$5 \times \mathbf{4} = 20$
$20 \div 5 = \mathbf{4}$
$\mathbf{20} \div 4 = 5$

b. $3 \times 7 = \mathbf{21}$
$7 \times 3 = \mathbf{21}$
$\mathbf{21} \div 7 = 3$
$\mathbf{21} \div 3 = 7$

c. $1 \times \mathbf{13} = 13$
$\mathbf{13} \times 1 = 13$
$13 \div \mathbf{13} = 1$
$13 \div 1 = \mathbf{13}$

d. $9 \times \mathbf{2} = 18$
$\mathbf{2} \times 9 = 18$
$18 \div \mathbf{2} = 9$
$18 \div 9 = \mathbf{2}$

e. $\mathbf{4} \times 6 = 24$
$6 \times \mathbf{4} = 24$
$24 \div 6 = \mathbf{4}$
$24 \div \mathbf{4} = 6$

f. $\mathbf{8} \times 10 = 80$
$10 \times \mathbf{8} = 80$
$80 \div \mathbf{8} = 10$
$80 \div 10 = \mathbf{8}$

2

a. $3 \times 5 = 15$
$5 \times 3 = 15$
$15 \div 3 = 5$
$15 \div 5 = 3$

b. $5 \times 7 = 35$
$7 \times 5 = 35$
$35 \div 5 = 7$
$35 \div 7 = 5$

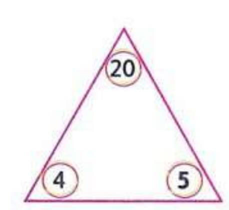
c. $3 \times 4 = 12$
$4 \times 3 = 12$
$12 \div 3 = 4$
$12 \div 4 = 3$

d. $5 \times 9 = 45$
$9 \times 5 = 45$
$45 \div 5 = 9$
$45 \div 9 = 5$

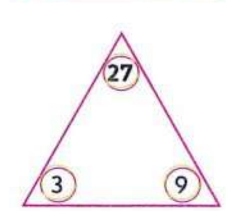
e. $4 \times 6 = 24$
$6 \times 4 = 24$
$24 \div 4 = 6$
$24 \div 6 = 4$

f. $3 \times 7 = 21$
$7 \times 3 = 21$
$21 \div 3 = 7$
$21 \div 7 = 3$

g. $4 \times 5 = 20$
$5 \times 4 = 20$
$20 \div 4 = 5$
$20 \div 5 = 4$



h. $3 \times 9 = 27$
$9 \times 3 = 27$
$27 \div 3 = 9$
$27 \div 9 = 3$



3

a. $2 \times 4 = 8$
$4 \times 2 = 8$

b. $3 \times 8 = 24$
$8 \times 3 = 24$

c. $4 \times 8 = 32$
$8 \times 4 = 32$

d. $5 \times 3 = 15$
$3 \times 5 = 15$

e. $6 \times 2 = 12$
$2 \times 6 = 12$

f. $9 \times 7 = 63$
$7 \times 9 = 63$

4

a. $16 \div 2 = 8$
$16 \div 8 = 2$

b. $50 \div 5 = 10$
$50 \div 10 = 5$

c. $28 \div 4 = 7$
$28 \div 7 = 4$

d. $40 \div 8 = 5$
$40 \div 5 = 8$

e. $36 \div 9 = 4$
$36 \div 4 = 9$

f. $42 \div 7 = 6$
$42 \div 6 = 7$

5
a. $5 \times \mathbf{2} = 10$
$10 \div 5 = \mathbf{2}$

b. $7 \times \mathbf{3} = 21$
$21 \div 7 = \mathbf{3}$

c. $10 \times \mathbf{8} = 80$
$80 \div \mathbf{8} = 10$

d. $\mathbf{2} \times 7 = 14$
$14 \div 7 = \mathbf{2}$

e. $\mathbf{9} \times 6 = 54$
$54 \div 6 = \mathbf{9}$

f. $\mathbf{7} \times 7 = 49$
$49 \div \mathbf{7} = 7$

6
a. $36 \div 6 = \mathbf{6}$
$6 \times \mathbf{6} = 36$

b. $40 \div 5 = \mathbf{8}$
$5 \times \mathbf{8} = 40$

c. $56 \div 7 = \mathbf{8}$
$7 \times \mathbf{8} = 56$

d. $27 \div \mathbf{9} = 3$
$3 \times \mathbf{9} = 27$

e. $16 \div \mathbf{4} = 4$
$4 \times \mathbf{4} = 16$

f. $72 \div \mathbf{9} = 8$
$8 \times \mathbf{9} = 72$

g. $36 \div 9 = \mathbf{4}$
$36 \div \mathbf{4} = 9$

h. $20 \div 2 = \mathbf{10}$
$20 \div \mathbf{10} = 2$

i. $18 \div \mathbf{6} = 3$
$18 \div 3 = \mathbf{6}$

j. $\mathbf{48} \div 8 = 6$
$8 \times 6 = \mathbf{48}$

k. $\mathbf{35} \div 7 = 5$
$7 \times 5 = \mathbf{35}$

l. $\mathbf{24} \div 6 = 4$
$4 \times 6 = \mathbf{24}$

7
a. 80 b. 9 c. 7
d. 66 e. 5 f. 9
g. 4 h. 21 i. 7

8
$2 \times \mathbf{9} = 18$ — $18 \div 2 = \mathbf{9}$
$7 \times 4 = \mathbf{28}$ — $\mathbf{28} \div 4 = 7$
$\mathbf{8} \times 10 = 80$ — $80 \div \mathbf{10} = 8$

9

	Problem	Work area	Answer
a.	$24 \div 2 = \mathbf{12}$	$2 \times 12 = 24$	12
b.	$4 \times 5 \times 2 = \mathbf{40}$	$4 \times (5 \times 2) = 4 \times 10 = 40$	40
c.	$12 \times \mathbf{4} = 48$	$4 \times (10 + 2) = (4 \times 10) + (4 \times 2) = 40 + 8 = 48$	4
d.	$63 \div \mathbf{9} = 7$	$9 \times 7 = 63$	9
e.	$\mathbf{8} \times 7 = 56$	$7 \times 8 = 56$	8

10

	Problem	Work area	Answer
a.	Equation : $45 \div 9 = \cdots$	$5 \times 9 = 45$ So, $45 \div 9 = 5$	5 apples
b.	Equation : $25 \div 5 = \cdots$	$5 \times 5 = 25$ So, $25 \div 5 = 5$	5 cookies
c.	Equation : $8 \times 6 = \cdots$	$8 \times 6 = 48$	48 marbles
d.	Equation : $36 \div 3 = \cdots$	$3 \times 12 = 36$ So, $36 \div 3 = 12$	12 pounds

11 Answer may vary.

Exercise 4

1
a. Perimeter $= 4 \times 2 = 8$ cm
b. Perimeter $= 4 \times 4 = 16$ cm
c. Perimeter $= 4 \times 3 = 12$ cm
d. Perimeter $= 4 \times 1 = 4$ cm
e. Perimeter $= 4 \times 6 = 24$ cm
f. Perimeter $= 4 \times 5 = 20$ m
g. Perimeter $= 4 \times 8 = 32$ cm
h. Perimeter $= 4 \times 7 = 28$ m
i. Perimeter $= 4 \times 9 = 36$ m

2
a. Perimeter $= 2 \times (3 + 2) = 2 \times 5 = 10$ cm
b. Perimeter $= 2 \times (4 + 1) = 2 \times 5 = 10$ cm
c. Perimeter $= 2 \times (5 + 3) = 2 \times 8 = 16$ cm
d. Perimeter $= 2 \times (8 + 4) = 2 \times 12 = 24$ cm
e. Perimeter $= 2 \times (7 + 2) = 2 \times 9 = 18$ m
f. Perimeter $= 2 \times (2 + 6) = 2 \times 8 = 16$ m

g. Perimeter $= 2 \times (1 + 5) = 2 \times 6$
$= 12$ m

h. Perimeter $= 2 \times (8 + 6) = 2 \times 14$
$= 28$ cm

i. Perimeter $= 2 \times (7 + 3) = 2 \times 10$
$= 20$ cm

3 a. Side length $= 20 \div 4 = 5$ cm

b. Side length $= 40 \div 4 = 10$ m

c. Side length $= 28 \div 4 = 7$ cm

d. Side length $= 32 \div 4 = 8$ m

e. Length + width $= 18 \div 2 = 9$ m
Width $= 9 - 6 = 3$ m

f. Length + width $= 24 \div 2 = 12$ cm
Length $= 12 - 3 = 9$ cm

g. Length + width $= 20 \div 2 = 10$ km
Width $= 10 - 7 = 3$ km

h. Length + width $= 22 \div 2 = 11$ m
Length $= 11 - 4 = 7$ m

i. Side length $= 36 \div 4 = 9$ km

j. Length + width $= 20 \div 2 = 10$ cm
Length $= 10 - 4 = 6$ cm

4 a. 4 b. 2 c. 28
d. 22 e. 22 f. 6
g. 10 h. 4

5 a. 24 b. 20 c. 3
d. 8 e. 16 f. 32
g. 3 h. 3 i. 7

6 a. The length of the fence
$= 4 \times 5 = 20$ m

b. The length of the side
$= 28 \div 4 = 7$ m

c. What Hani will need
$= (5 + 2) \times 2 = 7 \times 2 = 14$ m

d. The wide $= (24 \div 2) - 10$
$= 12 - 10$
$= 2$ m

Exercise 5

1 Ali earns in 3 weeks $= (25 \times 3)$
$= 25 + 25 + 25 = 75$ L.E.
Ali earns in 4 weeks
$= 75 + 20 = 95$ L.E.

2 Number of markers $= 3 \times 6$
$= 18$ markers
Number of students $= 18 - 2$
$= 16$ students

3 Number of figs $= 18 \div 3 = 6$ figs
The left $= 18 - 6 = 12$ pieces of fruit

4 Habiba ate in 6 days $= 10 \times 6$
$= 60$ crackers
Habiba ate in the week $= 60 + 7$
$= 67$ crackers

5 Number of required pots
$= 24 \div 3 = 8$ pots
Number of needed pots
$= 8 - 5 = 3$ pots

6 The rest $= 52 - 4 = 48$ pieces
Each child gets $= 48 \div 8 = 6$ pieces

7 a. The number of palm trees

= 152 – 88 = 64 trees

The number of more trees

= 88 – 64 = 24 fig trees

(Strategies of solving may vary)

b. The total = 17 + 19

= 36 crocodiles

The number of crocodiles in each area = 36 ÷ 4

= 9 crocodiles

(Strategies of solving may vary)

8

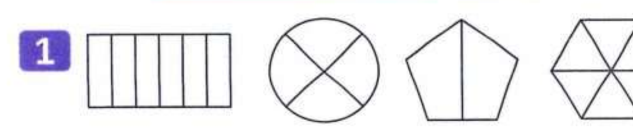
a. The wrong step is adding the total to 432 km.	350 + 213 + 124 = 687 km Hashem's family drove 687 km 687 – 432 = 255 km Hashem's family drove 255 km more than the last year road trip.
b. The wrong is "4 pieces of candy in all" and then she took away 8 from the total.	3 × 4 = 12 Hoda had 12 pieces of candy in 3 bags 12 + 8 = 20 Hoda had 20 pieces of candy in all
c. The wrong step is dividing 4 cookies by 4 containers.	24 ÷ 4 = 6 cookies There are 6 cookies in each container from the first batch. 6 + 4 = 10 cookies There are 10 cookies in each container from the second batch after adding the two baches.
d. The wrong step is adding 8 L.E. and 16 L.E.	8 × 3 = 24 L.E. Emad earned 24 L.E. for cleaning bedrooms. 24 + 16 = 40 L.E. Emad earned 40 L.E. by completing the chores.

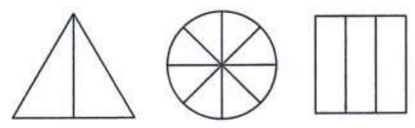
9 Answer may vary.

Answers of Chapter 8

Exercise 6

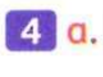
1

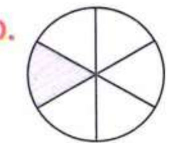
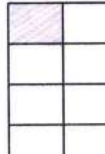


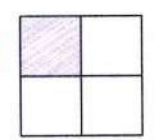
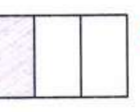
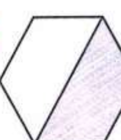


2 a. Halves b. Fourths c. Eighths d. Sixths e. Thirds

3 a. $\frac{1}{2}$ b. $\frac{1}{4}$ c. $\frac{1}{3}$ d. $\frac{1}{4}$ e. $\frac{1}{3}$ f. $\frac{1}{2}$ g. $\frac{1}{12}$ h. $\frac{1}{8}$ i. $\frac{1}{8}$



4 a. b.  c. 

d.  e.  f. 

5 a. halves b. fourths c. fifths d. thirds e. fourths f. thirds

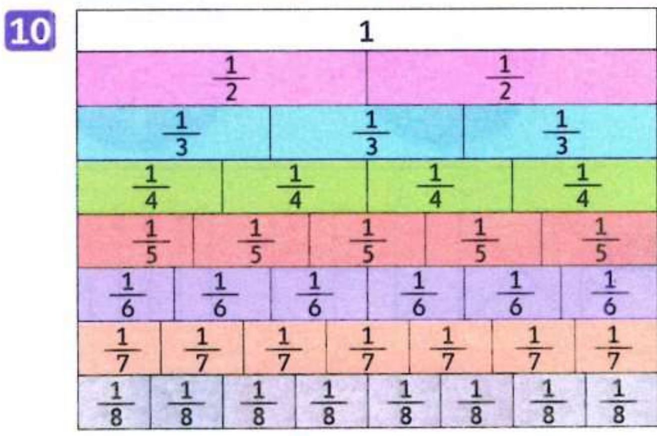
6 a. halves b. eighths c. fourths d. thirds e. fifths

7 a. $\frac{1}{4}$ b. $\frac{1}{3}$ c. $\frac{1}{5}$ d. $\frac{1}{2}$ e. $\frac{1}{8}$

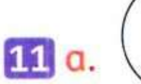
8 a. one third b. one half c. one fourth

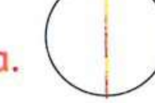
9 a. $\frac{1}{5}$ b. $\frac{1}{6}$ c. $\frac{1}{7}$ d. $\frac{1}{2}$

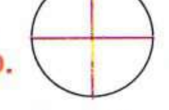
10



a. 10 b. 5 c. 7 d. 8 e. 6 f. 9

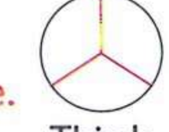
11 

a.  Halves

b.  Fourths

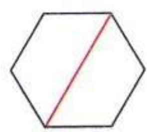
c. Sixths

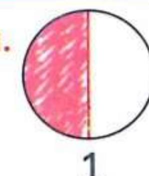
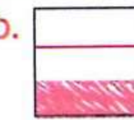
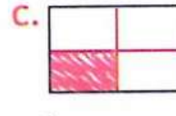
d. Fourths

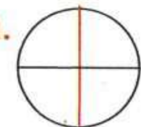
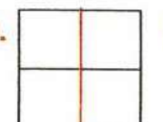
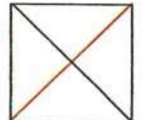
e.  Thirds

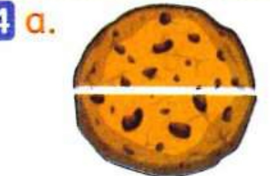
f. Fifths

g. Eighths

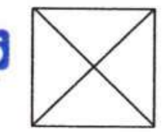
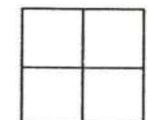
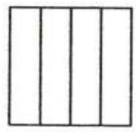
h.  Halves

12 a.  $\frac{1}{2}$ b.  $\frac{1}{3}$ c.  $\frac{1}{4}$

13 a.  b.  c. 

14 a.  b.

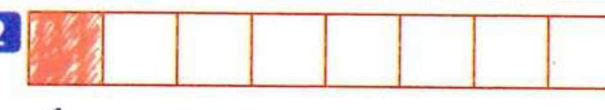
c. d.

15   

Exercise 7

1

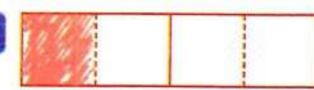
The fraction is $\frac{1}{3}$

2 

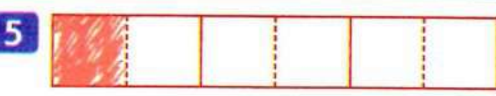
$\frac{1}{8}$

3

$\frac{1}{2}$

4 

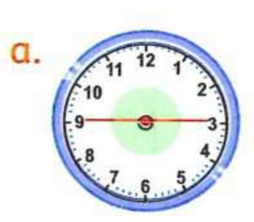
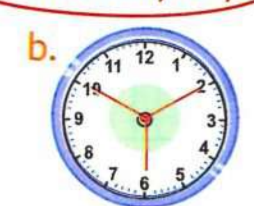
$\frac{1}{4}$

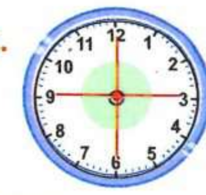
5 

$\frac{1}{6}$

Ways of division may vary

6 Answers may vary

a.  b. 

c. 

7

The left part fraction = $\frac{1}{2}$

Exercise 8

1
a. > b. > c. < d. <
e. > f. > g. < h. <
i. > j. < k. < l. <
m. > n. < o. <

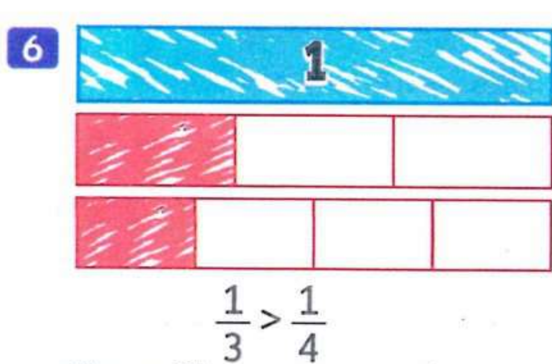
2
a. > b. < c. > d. >
e. = f. < g. < h. >
i. > j. < k. > l. <

3
a. $\frac{1}{7}$ b. $\frac{1}{3}$ c. $\frac{1}{9}$ d. $\frac{1}{3}$
e. $\frac{1}{2}$ f. $\frac{1}{5}$ g. $\frac{1}{2}$ h. $\frac{1}{5}$
i. 5 j. 8

4 $\frac{1}{3}, \frac{1}{5}, \frac{1}{2}, \frac{1}{4}, \frac{1}{6}$

5 $\frac{1}{10}, \frac{1}{9}, \frac{1}{7}, \frac{1}{6}, \frac{1}{11}, \frac{1}{12}, \frac{1}{8}$

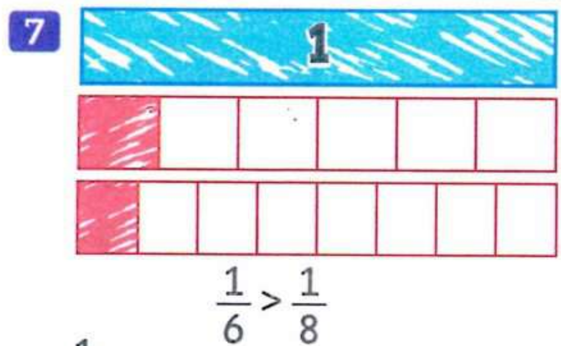
6



$\frac{1}{3} > \frac{1}{4}$

She will use more oil.

7



$\frac{1}{6} > \frac{1}{8}$

$\frac{1}{6}$ of a meter for the base is the larger.

8

$\frac{1}{5} > \frac{1}{7}$

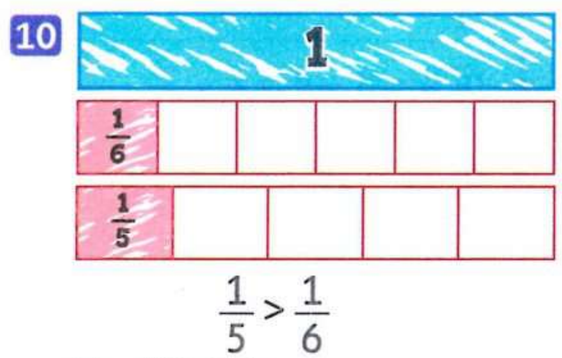
Bassem ran farther.

9

$\frac{1}{4} > \frac{1}{8}$

Mariam climbed higher.

10



$\frac{1}{5} > \frac{1}{6}$

No, Walid is wrong.

11 a. Order is : $\frac{1}{8}, \frac{1}{4}, \frac{1}{2}$

b. Order is : $\frac{1}{12}, \frac{1}{9}, \frac{1}{5}, \frac{1}{4}, \frac{1}{2}$

12 a. Order is : $\frac{1}{2}, \frac{1}{4}, \frac{1}{7}$

b. Order is : $\frac{1}{3}, \frac{1}{4}, \frac{1}{9}, \frac{1}{10}$

Exercise 9

1 a. ✗ b. ✓ c. ✓

d. ✓ e. ✗

2 a. half of Saturday.

b. half of an hour.

c. half of a cake.

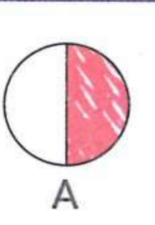
d. half of a swimming pool.

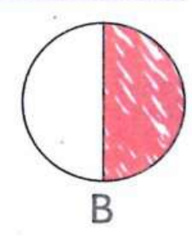
e. half of a liter.

* Explain your reasoning

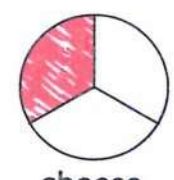
(Answer by yourself)

3 Half of the pie B because $\frac{1}{2}$ of pie B is bigger.





4 No, $\frac{1}{3}$ of cheese pizza is larger.



5 $\frac{1}{2}$ of Moaaz's figs = 3 figs

$\frac{1}{2}$ of Adam's figs = 5 figs

I choose $\frac{1}{2}$ of Adam's figs (which is the greater)

---

6 No, I can not because they measure different objects.

Exercise 10

1 a. $\frac{1}{2}$, Two b. $\frac{1}{3}$, Three

c. $\frac{1}{4}$, four d. 8

e. 6 f. 12 g. 20

---

2 a. 3 b. 7 c. 9 d. 8

e. 6 f. 13 g. 15 h. 10

i. 20 j. 17 k. 25 l. 36

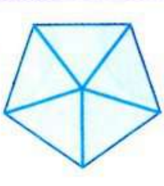
m. 4 , 5 , 9 , 11 , 17 , 35

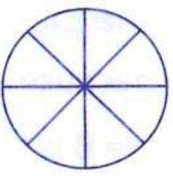
---

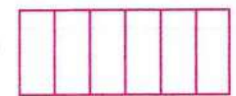
3 a. ✗ b. ✓ c. ✓

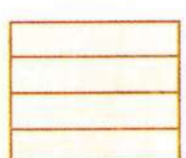
d. ✗ e. ✓

---

4 a. 

b. 

c. 

d. 

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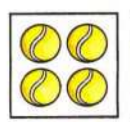
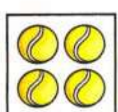
5 $\frac{11}{11}$

Exercise 11

1 $\frac{1}{2}$ of 8 is 4

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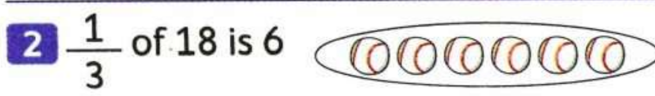
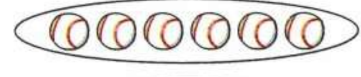
2 $\frac{1}{3}$ of 18 is 6

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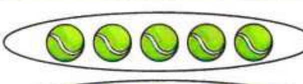
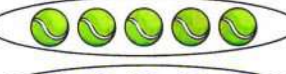
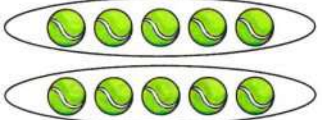
3 $\frac{1}{4}$ of 20 is 5

---

4 a. $18 \div 2 = 9$ b. $21 \div 7 = 3$

c. $8 \div 4 = 2$ d. $9 \div 3 = 3$

e. $18 \div 6 = 3$ f. $16 \div 4 = 4$

g. $24 \div 8 = 3$ h. $25 \div 5 = 5$

i. $27 \div 3 = 9$ j. $24 \div 4 = 6$

k. $6 \div 6 = 1$ l. $36 \div 4 = 9$

---

5 a. $>$ b. $>$ c. $<$ d. $=$

e. $<$ f. $=$ g. $<$ h. $<$

---

6 a. ✗ b. ✓ c. ✓

d. ✓ e. ✗

---

7 a. $\frac{1}{4}$ of $8 = 8 \div 4 = 2$, 2

b. $\frac{1}{2}$ of $16 = 16 \div 2 = 8$, 8

c. $\frac{1}{8}$ of $24 = 24 \div 8 = 3$, 3

d. $\frac{1}{3}$ of $21 = 21 \div 3 = 7$, 7

8 a. Each friend will get

$= 12 \div 2 = 6$ apples , $\frac{1}{2}$

b. Each friend will get

$= 12 \div 3 = 4$ apples , $\frac{1}{3}$

c. Each friend will get

$= 12 \div 4 = 3$ apples , $\frac{1}{4}$

d. Each friend will get

$= 12 \div 6 = 2$ apples , $\frac{1}{6}$

---

9 $1 \div 4 = \frac{1}{4}$

Each one gets $\frac{1}{4}$ of pizza.

10 $6 \div 6 = 1$

Each guest gets $\frac{1}{6}$ of the 6 – pack.

---

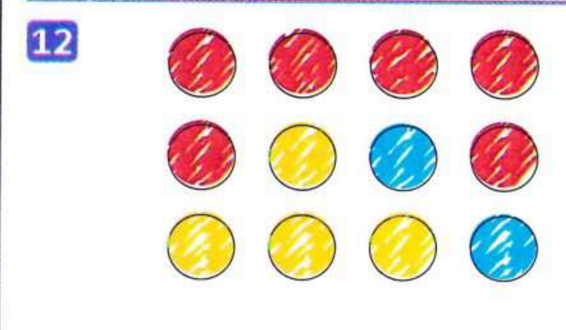
11 a. The number of hours

$= \frac{1}{3} \times 24 = 24 \div 3 = 8$ hours

b. The number of months

$= \frac{1}{4} \times 12 = 12 \div 4 = 3$ months

12



Answers of Chapter 9

Exercise 12

1 a. $\frac{1}{2}$ b. $\frac{1}{3}$ c. $\frac{1}{4}$ d. $\frac{1}{5}$ e. $\frac{1}{6}$ f. $\frac{1}{8}$

2 1. → b. 2. → a. 3. → c.

3
a. 0, $\frac{1}{3}$, $\frac{2}{3}$, 1
b. 0, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{3}{5}$, $\frac{4}{5}$, 1
c. 0, $\frac{1}{2}$, 1
d. 0, $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$, 1
e. 0, $\frac{1}{6}$, $\frac{2}{6}$, $\frac{3}{6}$, $\frac{4}{6}$, $\frac{5}{6}$, 1
f. 0, $\frac{1}{7}$, $\frac{2}{7}$, $\frac{3}{7}$, $\frac{4}{7}$, $\frac{5}{7}$, $\frac{6}{7}$, 1

4
a. 0, $\frac{1}{8}$, $\frac{2}{8}$, $\frac{3}{8}$, $\frac{4}{8}$, $\frac{5}{8}$, $\frac{6}{8}$, $\frac{7}{8}$, 1
b. 0, $\frac{1}{10}$, $\frac{2}{10}$, $\frac{3}{10}$, $\frac{4}{10}$, $\frac{5}{10}$, $\frac{6}{10}$, $\frac{7}{10}$, $\frac{8}{10}$, $\frac{9}{10}$, 1
c. 0, $\frac{1}{9}$, $\frac{2}{9}$, $\frac{3}{9}$, $\frac{4}{9}$, $\frac{5}{9}$, $\frac{6}{9}$, $\frac{7}{9}$, $\frac{8}{9}$, 1
d. 0, $\frac{1}{12}$, $\frac{2}{12}$, $\frac{3}{12}$, $\frac{4}{12}$, $\frac{5}{12}$, $\frac{6}{12}$, $\frac{7}{12}$, $\frac{8}{12}$, $\frac{9}{12}$, $\frac{10}{12}$, $\frac{11}{12}$, 1

5 Represent by yourself.
a. > b. < c. <
d. > e. =

6
a. $\frac{1}{2} > \frac{1}{4}$ — 0, $\frac{1}{2}$, 1 $\boxed{\frac{1}{2}}$; 0, $\frac{1}{4}$, 1 $\boxed{\frac{1}{4}}$
b. $\frac{1}{6} < \frac{1}{3}$ — 0, $\frac{1}{6}$, 1 $\boxed{\frac{1}{6}}$; 0, $\frac{1}{3}$, 1 $\boxed{\frac{1}{3}}$
c. $\frac{1}{4} > \frac{1}{8}$ — 0, $\frac{1}{4}$, 1 $\boxed{\frac{1}{4}}$; 0, $\frac{1}{8}$, 1 $\boxed{\frac{1}{8}}$
d. $\frac{1}{2} > \frac{1}{3}$ — 0, $\frac{1}{2}$, 1 $\boxed{\frac{1}{2}}$; 0, $\frac{1}{3}$, 1 $\boxed{\frac{1}{3}}$
e. $\frac{1}{2} > \frac{1}{8}$ — 0, $\frac{1}{2}$, 1 $\boxed{\frac{1}{2}}$; 0, $\frac{1}{8}$, 1 $\boxed{\frac{1}{8}}$
f. $\frac{1}{4} > \frac{1}{10}$ — 0, $\frac{1}{4}$, 1 $\boxed{\frac{1}{4}}$; 0, $\frac{1}{10}$, 1 $\boxed{\frac{1}{10}}$
g. $\frac{1}{8} < \frac{1}{6}$ — 0, $\frac{1}{8}$, 1 $\boxed{\frac{1}{8}}$; 0, $\frac{1}{6}$, 1 $\boxed{\frac{1}{6}}$

7 a. $\frac{1}{7}$ b. $\frac{1}{5}$ c. $\frac{1}{4}$ d. $\frac{1}{10}$ e. $\frac{1}{8}$ f. $\frac{1}{3}$

8 a. > b. < c. >
d. > e. < f. <

9 a. Number line: 0, $\frac{1}{3}$, $\frac{2}{3}$, 1

- 3
- $\frac{1}{3}$

b. Number line: 0, $\frac{1}{8}$, $\frac{2}{8}$, $\frac{3}{8}$, $\frac{4}{8}$, $\frac{5}{8}$, $\frac{6}{8}$, $\frac{7}{8}$, 1

- 8

c. Number line: 0, $\frac{1}{6}$, $\frac{2}{6}$, $\frac{3}{6}$, $\frac{4}{6}$, $\frac{5}{6}$, 1

d. Number line: 0, $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$, 1

- $\frac{1}{4}$

e. Number line: 0, $\frac{1}{8}$, $\frac{2}{8}$, $\frac{3}{8}$, $\frac{4}{8}$, $\frac{5}{8}$, $\frac{6}{8}$, $\frac{7}{8}$, 1

- 8

10 Disagree

Number line: 0, $\frac{1}{9}$, 1

Number line: 0, $\frac{1}{8}$, 1

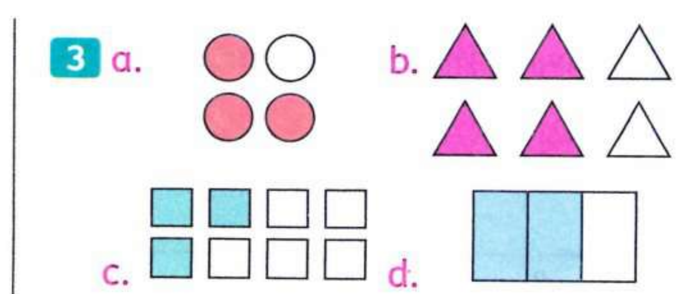
$\frac{1}{9}$ (<) $\frac{1}{8}$

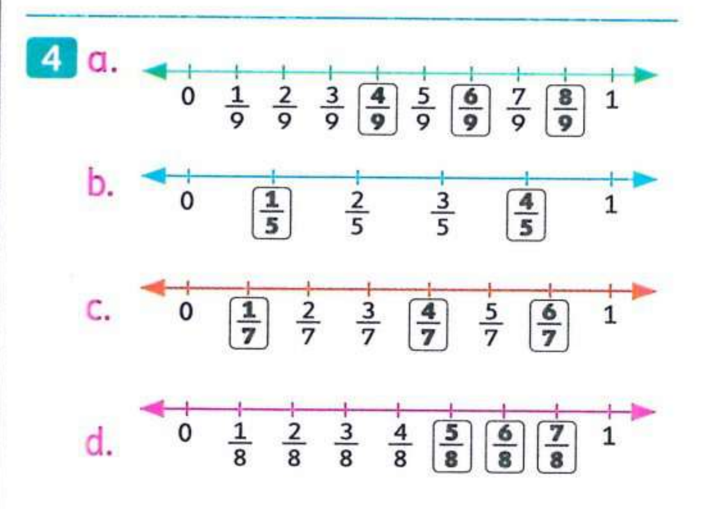
Exercise 13

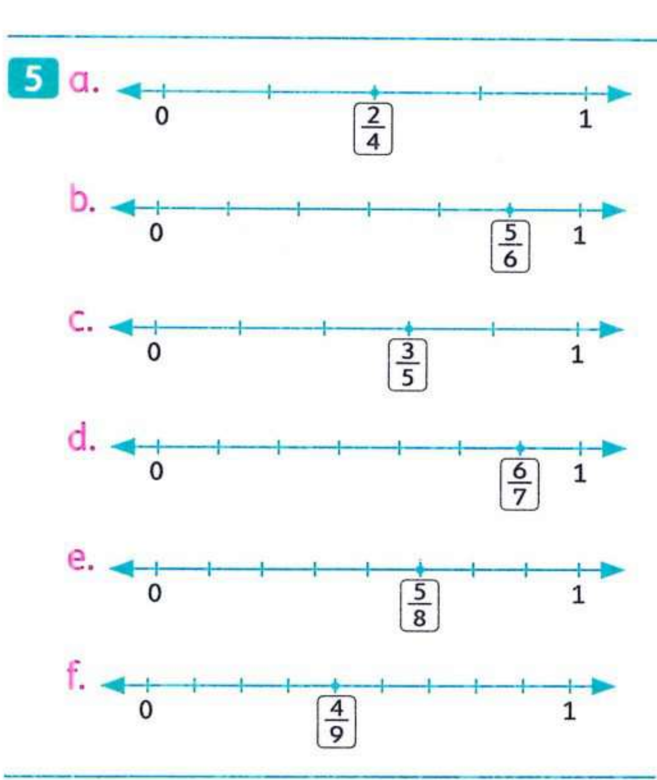
1 a. $\frac{3}{4}$ b. $\frac{5}{9}$ c. $\frac{3}{8}$

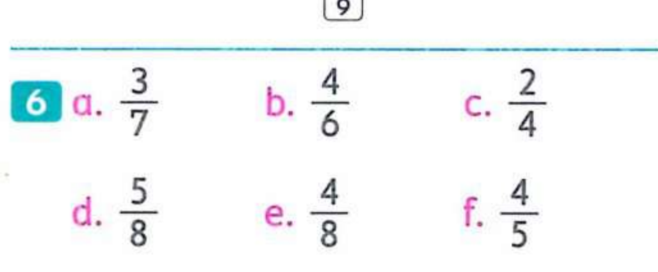
d. $\frac{2}{3}$ e. $\frac{5}{8}$ f. $\frac{6}{10}$

2 a. b. c.



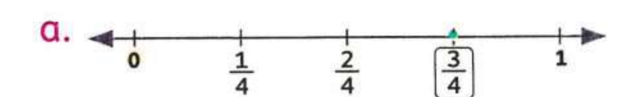




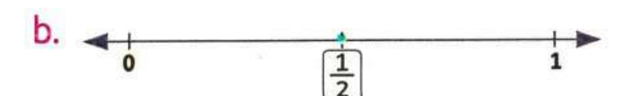


7 Draw the models by yourself.

a.



b.



c. 0 $\frac{1}{6}$ $\frac{2}{6}$ $\frac{3}{6}$ $\boxed{\frac{4}{6}}$ $\frac{5}{6}$ 1

d. 0 $\frac{1}{3}$ $\boxed{\frac{2}{3}}$ 1

e. 0 $\frac{1}{5}$ $\boxed{\frac{2}{5}}$ $\frac{3}{5}$ $\frac{4}{5}$ 1

f. 0 $\boxed{\frac{1}{4}}$ $\frac{2}{4}$ $\frac{3}{4}$ 1

8 a. 0 $\frac{2}{6}$ 1

b. 0 $\frac{5}{12}$ 1

c. 0 $\frac{2}{8}$ 1

9 a. < b. > c. > d. <

10 a. > b. < c. >

11 Draw the models by yourself.

a. < b. < c. > d. >

e. <

12 a. < b. > c. < d. >

13 $\frac{2}{5}$

14 $\frac{5}{12}$

15 Yellow

Exercise 14

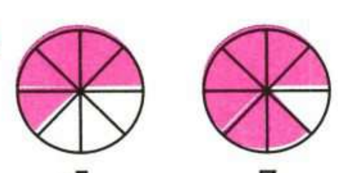
First : Comparing fractions with the same denominator

1 a. > b. < c. >

2 a. < b. > c. > d. <

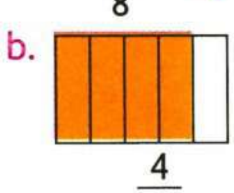
3

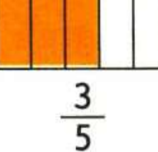
a.



$\frac{5}{8}$ < $\frac{7}{8}$

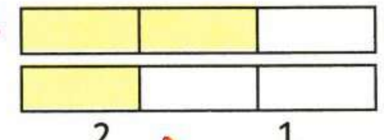
b.





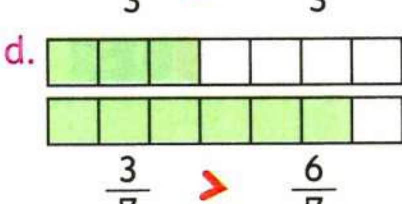
$\frac{4}{5}$ > $\frac{3}{5}$

c.



$\frac{2}{3}$ > $\frac{1}{3}$

d.



$\frac{3}{7}$ > $\frac{6}{7}$

4 a. < b. > c. > d. <

e. < f. < g. > h. <

i. >

5 a. $\frac{1}{7}$ b. $\frac{2}{5}$ c. $\frac{6}{10}$
d. $\frac{6}{11}$ e. $\frac{5}{9}$ f. $\frac{12}{14}$

6 a. $\frac{5}{8}$ b. $\frac{5}{6}$ c. $\frac{4}{12}$
d. $\frac{6}{7}$ e. $\frac{20}{20}$ f. $\frac{13}{13}$

7 $\frac{9}{15}$, $\frac{14}{15}$, $\frac{13}{15}$, $\frac{11}{15}$, $\frac{15}{15}$

8 a. ✗ b. ✓ c. ✓
d. ✓ e. ✓ f. ✓

9 a. $\frac{5}{6}$ b. $\frac{7}{8}$ c. $\frac{2}{9}$
d. $\frac{2}{5}$ e. $\frac{3}{7}$ f. $\frac{3}{4}$

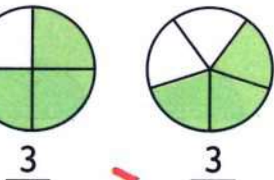
Second : Comparing fractions with the same numerator

10 a. $<$ b. $>$ c. $<$

11 a. $>$ b. $<$ c. $<$
d. $>$ e. $<$ f. $<$

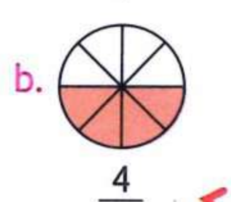
12

a.



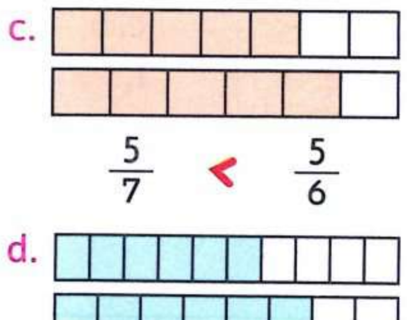
$\frac{3}{4}$ $>$ $\frac{3}{5}$

b.



$\frac{4}{8}$ $<$ $\frac{4}{6}$

c.



$\frac{5}{7}$ $<$ $\frac{5}{6}$

d.

$\frac{6}{10}$ $<$ $\frac{6}{8}$

13 a. $<$ b. $>$ c. $>$ d. $<$
e. $<$ f. $>$ g. $<$ h. $>$
i. $<$

14 a. $\frac{2}{9}$ b. $\frac{3}{7}$ c. $\frac{5}{9}$
d. $\frac{4}{8}$ e. $\frac{6}{9}$ f. $\frac{2}{5}$

15 a. $\frac{3}{5}$ b. $\frac{4}{6}$ c. $\frac{2}{4}$
d. $\frac{1}{4}$ e. $\frac{7}{9}$ f. $\frac{5}{5}$

16 $\frac{2}{7}$, $\frac{2}{9}$, $\frac{2}{6}$, $\frac{2}{8}$, $\frac{2}{10}$

Third : General problems on comparing fractions

17 a. $>$ b. $>$ c. $<$
d. $>$ e. $>$ f. $<$

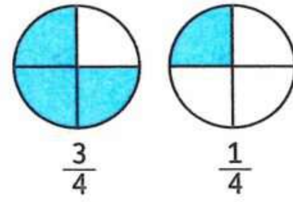
18 a. $<$ b. $>$ c. $<$
d. $>$ e. $<$ f. $<$

19 a. < b. < c. >
d. < e. < f. <

20 a. $\frac{1}{7}$ b. $\frac{2}{3}$ c. $\frac{4}{7}$
d. $\frac{5}{7}$ e. $\frac{6}{7}$

21 *Models may vary*

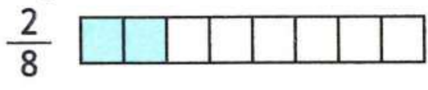
a. $\frac{3}{4} > \frac{1}{4}$ The greater fraction is $\frac{3}{4}$



b. When comparing fractions with like denominators, the one with greater numerator is the greater.

22

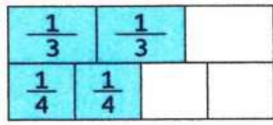
a. $\frac{2}{8} < \frac{5}{8}$ The greater fraction is $\frac{5}{8}$



b. Answer by yourself.

23 *Models may vary*

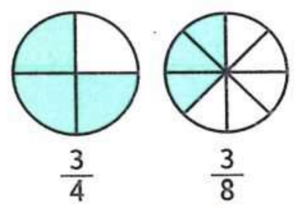
a. $\frac{2}{3} > \frac{2}{4}$ The greater fraction is $\frac{2}{3}$



b. When comparing fractions with the same numerator, the one with the greater denominator is the smaller.

24

a. $\frac{3}{4} > \frac{3}{8}$ The greater fraction is $\frac{3}{4}$



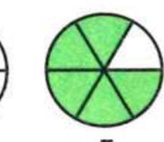
b. Answer by yourself.

Exercise 15

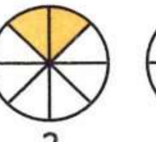
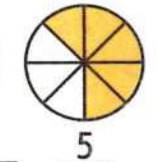
1 a. $\frac{5}{6}$ b. $\frac{3}{4}$ c. $\frac{7}{12}$
d. $\frac{2}{3}$ e. $\frac{7}{8}$ f. $\frac{3}{10}$

2 a. $\frac{3}{8}$ b. $\frac{3}{4}$ c. $\frac{7}{12}$
d. $\frac{1}{6}$ e. $\frac{3}{5}$ f. $\frac{7}{10}$

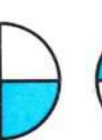
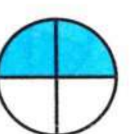
3

a. 

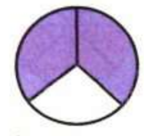
$\frac{4}{6} + \frac{1}{6} = \frac{5}{6}$

b.  

$\frac{2}{8} + \frac{3}{8} = \frac{5}{8}$

c.  

$\frac{1}{4} + \frac{2}{4} = \frac{3}{4}$

d. 

$\frac{1}{3} + \frac{1}{3} = \frac{2}{3}$

4 Draw the models by yourself.

a. $\frac{5}{8}$ b. $\frac{4}{6}$ c. $\frac{2}{2}$ d. $\frac{3}{4}$

5 Draw the models by yourself.

a. $\frac{1}{4}$ b. $\frac{2}{8}$ c. $\frac{2}{3}$ d. $\frac{2}{12}$

6 a. $\frac{2}{5}$ b. $\frac{5}{10}$ c. $\frac{3}{3}$ d. $\frac{10}{12}$

e. $\frac{5}{6}$ f. $\frac{4}{4}$ g. $\frac{6}{8}$ h. $\frac{7}{10}$

i. $\frac{4}{10}$ j. $\frac{3}{5}$ k. $\frac{11}{12}$ l. $\frac{3}{8}$

7 a. $\frac{2}{8}$ b. $\frac{1}{3}$ c. $\frac{3}{12}$ d. $\frac{3}{6}$

e. $\frac{3}{10}$ f. $\frac{2}{12}$ g. $\frac{6}{8}$ h. $\frac{1}{4}$

i. $\frac{1}{3}$ j. $\frac{3}{6}$ k. $\frac{4}{10}$ l. $\frac{11}{12}$

8 a. $\frac{3}{7}$ b. $\frac{5}{10}$ c. $\frac{4}{9}$

d. $\frac{5}{5}$ e. $\frac{1}{11}$ f. $\frac{5}{8}$

9 a. > b. < c. < d. <

e. < f. = g. > h. =

10 a. $\frac{4}{5}$ b. $\frac{5}{7}$ c. $\frac{7}{12}$ d. $\frac{3}{9}$

e. $\frac{4}{10}$ f. $\frac{3}{7}$ g. $\frac{3}{5}$ h. $\frac{7}{8}$

11 a. $\frac{1}{5}+\frac{1}{5}$ b. $\frac{9}{10}-\frac{2}{10}$ c. $\frac{3}{10}+\frac{3}{10}$

d. $\frac{7}{8}-\frac{5}{8}$ e. $\frac{1}{8}+\frac{3}{8}$

12 a. $\frac{3}{5}$ b. $\frac{4}{10}$ c. $\frac{2}{6}$

d. $\frac{6}{8}$ e. $\frac{6}{9}$ f. $\frac{2}{8}$

g. $\frac{10}{12}$ h. $\frac{5}{8}$ i. $\frac{2}{4}$

T	W	O	P	A	I	R	S	O	F	P	A	N	T	S
$\frac{6}{9}$	$\frac{5}{8}$	$\frac{2}{6}$	$\frac{2}{4}$	$\frac{1}{6}$	$\frac{2}{8}$	$\frac{3}{5}$	$\frac{6}{8}$	$\frac{2}{6}$	$\frac{10}{12}$	$\frac{2}{4}$	$\frac{1}{6}$	$\frac{4}{10}$	$\frac{6}{9}$	$\frac{6}{8}$

13 Answer by yourself.

Exercise 16

1 He ate $= \frac{1}{6} + \frac{2}{6} = \frac{3}{6}$ of his sandwich.

2 What he has left

$= \frac{2}{4} - \frac{1}{4} = \frac{1}{4}$ of a candy bar

3 What is left

$= \frac{8}{8} - \frac{6}{8} = \frac{2}{8}$ meter of fabric

4 What is left of the juice

$= \frac{5}{6} - \frac{3}{6} = \frac{2}{6}$ of the container

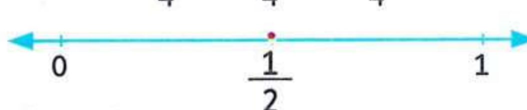
5 The fraction

$= \frac{2}{8} + \frac{2}{8} = \frac{4}{8}$ kilometer

6 $\frac{2}{3} > \frac{1}{3}$ Taha lives closer to school.

7

0 $\frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{4}$ 1



$\frac{3}{4} > \frac{1}{2}$, so Maha's class received more cake.

8 The fraction of the left of the pie

$= \frac{8}{8} - \frac{6}{8} = \frac{2}{8}$

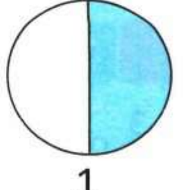
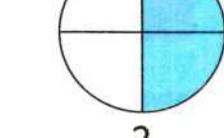
Answers of Chapter 10

Exercise 17

1 a. $\frac{2}{4}=\frac{1}{2}$ b. $\frac{1}{2}=\frac{3}{6}$

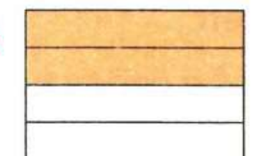
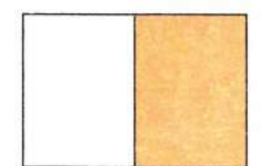
c. $\frac{1}{2}=\frac{4}{8}$ d. $\frac{5}{10}=\frac{1}{2}$

2 a.

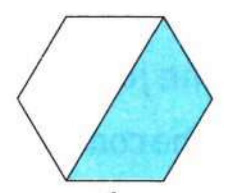
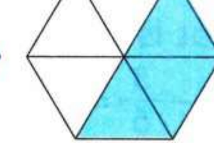
$\frac{1}{2}=\frac{2}{4}$

b.

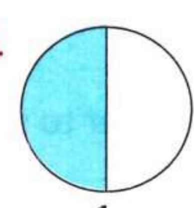
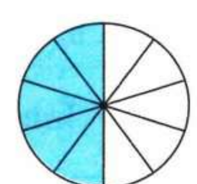
$\frac{2}{4}=\frac{1}{2}$

c.

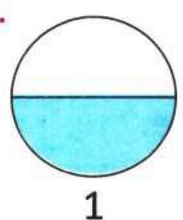
$\frac{1}{2}=\frac{3}{6}$

d.

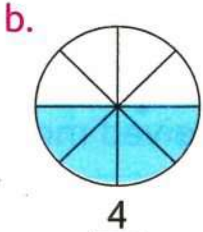
$\frac{1}{2}=\frac{5}{10}$

3 a.



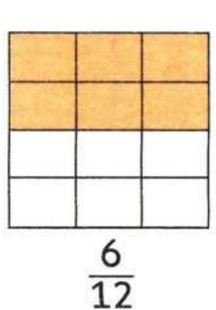
$\frac{1}{2}$

b.



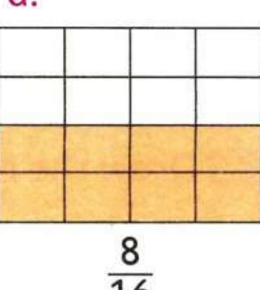
$\frac{4}{8}$

c.



$\frac{6}{12}$

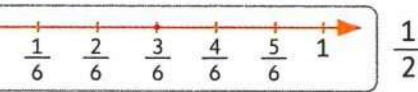
d.



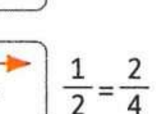
$\frac{8}{16}$

4 a. 0, $\frac{1}{6}$, $\frac{2}{6}$, $\frac{3}{6}$, $\frac{4}{6}$, $\frac{5}{6}$, 1 $\frac{1}{2}=\frac{3}{6}$

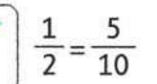
b. 0, $\frac{1}{8}$, $\frac{2}{8}$, $\frac{3}{8}$, $\frac{4}{8}$, $\frac{5}{8}$, $\frac{6}{8}$, $\frac{7}{8}$, 1 $\frac{1}{2}=\frac{4}{8}$



c. 0, $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$, 1 $\frac{1}{2}=\frac{2}{4}$



d. 0, $\frac{1}{10}$, $\frac{2}{10}$, $\frac{3}{10}$, $\frac{4}{10}$, $\frac{5}{10}$, $\frac{6}{10}$, $\frac{7}{10}$, $\frac{8}{10}$, $\frac{9}{10}$, 1 $\frac{1}{2}=\frac{5}{10}$



e. 0, $\frac{1}{12}$, $\frac{2}{12}$, $\frac{3}{12}$, $\frac{4}{12}$, $\frac{5}{12}$, $\frac{6}{12}$, $\frac{7}{12}$, $\frac{8}{12}$, $\frac{9}{12}$, $\frac{10}{12}$, $\frac{11}{12}$, 1 $\frac{1}{2}=\frac{6}{12}$

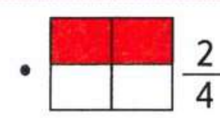
5 a. 2, 0, $\frac{1}{4}$, $\frac{1}{2}$ / $\frac{2}{4}$, $\frac{3}{4}$, 1

b. 4, 0, $\frac{1}{8}$, $\frac{2}{8}$, $\frac{3}{8}$, $\frac{4}{8}$, $\frac{5}{8}$, $\frac{6}{8}$, $\frac{7}{8}$, 1

b. 8, 0, $\frac{1}{2}$, 1

6 a. 6 b. 8 c. 7
d. 16 e. 6 f. 10
g. 1 h. 2 i. 2

7 1. • $\frac{1}{2}$ • $\frac{2}{4}$



2. • 3 pieces
• $\frac{3}{6}=\frac{1}{2}$

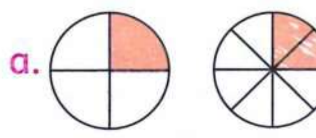
8 a. Yes

b. $\frac{9}{18}$ (Answers may vary)

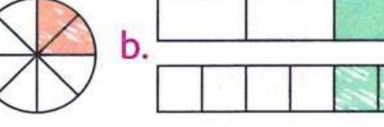
Exercise 18

1 a. 3 b. 6 c. 2
d. 6 e. 4 f. 8

2

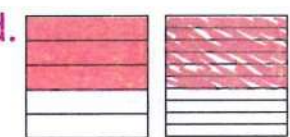
a.


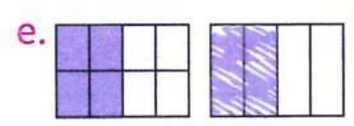
$\frac{1}{4} = \frac{2}{8}$

b.

$\frac{1}{3} = \frac{2}{6}$

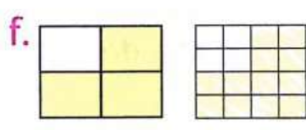
c.

$\frac{2}{3} = \frac{6}{9}$

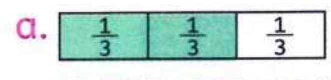
d.

$\frac{3}{5} = \frac{6}{10}$

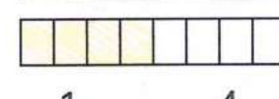
e.


$\frac{4}{8} = \frac{2}{4}$

f.

$\frac{3}{4} = \frac{12}{16}$

3

a.

$\frac{2}{3} = \frac{4}{6}$

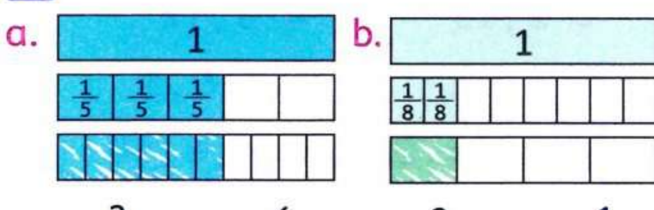
b.

$\frac{1}{2} = \frac{4}{8}$

c.

$\frac{5}{6} = \frac{10}{12}$

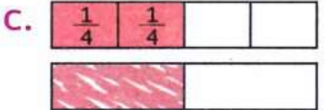
d. $\frac{4}{12} = \frac{1}{3}$

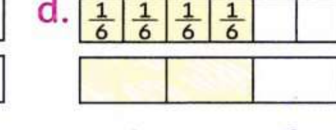
4



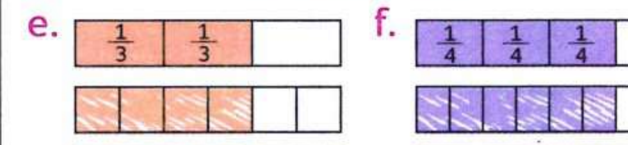
a. $\frac{3}{5} = \frac{6}{10}$

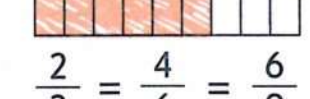
b. $\frac{2}{8} = \frac{1}{4}$

c.

$\frac{2}{4} = \frac{1}{2}$

d.

$\frac{4}{6} = \frac{2}{3}$

(Answers may vary)



e.

$\frac{2}{3} = \frac{4}{6} = \frac{6}{9}$

f. $\frac{3}{4} = \frac{6}{8} = \frac{9}{12}$

5 (Answers may vary)

a. $\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8} = \frac{5}{10}$

b. $\frac{2}{6} = \frac{1}{3} = \frac{3}{9} = \frac{4}{12} = \frac{10}{30}$

6 a. Not equivalent
b. Equivalent c. Equivalent
d. Not equivalent
e. Equivalent
f. Not equivalent

7 a. 10 b. 4 c. 3
d. 4 e. 8 f. 6
g. 35 h. 20 i. 1

8 a. 6 , 20 b. 21 , 4
c. 2 , 15 d. 3 , 12
e. 6 , 12 f. 9 , 6 , 5
g. 4 , 35 , 20 h. 4 , 8 , 50

9 a. $\frac{4}{6} = \frac{6}{9}$

Answers may vary

b. $\frac{2}{6} = \frac{1}{3}$

c. $\frac{2}{3} = \frac{8}{12}$ d. $\frac{2}{5} = \frac{6}{15}$

e. $\frac{1}{3} = \frac{2}{6}$ f. $\frac{2}{10} = \frac{1}{5}$

10 a. $\frac{6}{15}$ b. $\frac{3}{8}$ c. $\frac{8}{24}$

d. $\frac{1}{4}$ e. $\frac{15}{20}$ f. $\frac{10}{50}$

g. sixths h. tenths i. eighths
j. ninths k. Four l. Six

11 a. $\frac{2}{3} = \frac{\mathbf{4}}{6} = \frac{6}{\mathbf{9}} = \frac{\mathbf{8}}{12}$

Description of the pattern :
The numerator increases by 2 and the denominator increases by 3

b. $\frac{3}{5} = \frac{\mathbf{6}}{10} = \frac{9}{\mathbf{15}} = \frac{12}{\mathbf{20}}$

Description of the pattern :
The numerator increases by 3 and the denominator increases by 5

c. $\frac{2}{7} = \frac{4}{\mathbf{14}} = \frac{\mathbf{6}}{21} = \frac{\mathbf{8}}{28}$

Description of the pattern :
The numerator increases by 2 and the denominator increases by 7

d. $\frac{1}{8} = \frac{2}{\mathbf{16}} = \frac{\mathbf{3}}{24} = \frac{\mathbf{4}}{32}$

Description of the pattern :
The numerator increases by 1 and the denominator increases by 8

e. $\frac{3}{4} = \frac{\mathbf{6}}{8} = \frac{\mathbf{9}}{12} = \frac{12}{\mathbf{16}}$

Description of the pattern :
The numerator increases by 3 and the denominator increases by 4

f. $\frac{5}{6} = \frac{10}{\mathbf{12}} = \frac{\mathbf{15}}{18} = \frac{\mathbf{20}}{24}$

Description of the pattern :
The numerator increases by 5 and the denominator increases by 6

g. $\frac{4}{5} = \frac{8}{\mathbf{10}} = \frac{\mathbf{12}}{15} = \frac{16}{\mathbf{20}}$

Description of the pattern :
The numerator increases by 4 and the denominator increases by 5

12 She will need 4 pieces.

Exercise 19

1 a. $\frac{1}{3} = \frac{2}{6}$

Number lines: $\frac{0}{3}$, $\frac{1}{3}$, $\frac{2}{3}$, $\frac{3}{3}$

$\frac{0}{6}$, $\frac{1}{6}$, $\frac{2}{6}$, $\frac{3}{6}$, $\frac{4}{6}$, $\frac{5}{6}$, $\frac{6}{6}$

b. $\frac{4}{8} = \boxed{\frac{1}{2}}$

$\frac{0}{8}$ $\frac{1}{8}$ $\frac{2}{8}$ $\frac{3}{8}$ $\frac{4}{8}$ $\frac{5}{8}$ $\frac{6}{8}$ $\frac{7}{8}$ $\frac{8}{8}$

$\frac{0}{2}$ $\frac{1}{2}$ $\frac{2}{2}$

c. $\frac{3}{4} = \boxed{\frac{9}{12}}$

$\frac{0}{4}$ $\frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{4}$ $\frac{4}{4}$

$\frac{0}{12}$ $\frac{1}{12}$ $\frac{2}{12}$ $\frac{3}{12}$ $\frac{4}{12}$ $\frac{5}{12}$ $\frac{6}{12}$ $\frac{7}{12}$ $\frac{8}{12}$ $\frac{9}{12}$ $\frac{10}{12}$ $\frac{11}{12}$ $\frac{12}{12}$

d. $\frac{4}{6} = \boxed{\frac{2}{3}}$

$\frac{0}{6}$ $\frac{1}{6}$ $\frac{2}{6}$ $\frac{3}{6}$ $\frac{4}{6}$ $\frac{5}{6}$ $\frac{6}{6}$

$\frac{0}{3}$ $\frac{1}{3}$ $\frac{2}{3}$ $\frac{3}{3}$

e. $\frac{3}{5} = \boxed{\frac{6}{10}}$

$\frac{0}{5}$ $\frac{1}{5}$ $\frac{2}{5}$ $\frac{3}{5}$ $\frac{4}{5}$ $\frac{5}{5}$

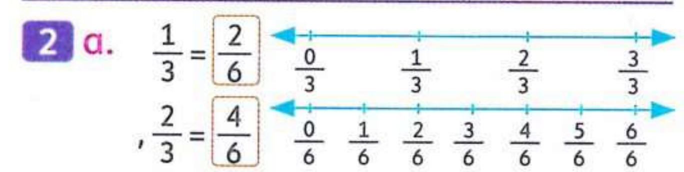
$\frac{0}{10}$ $\frac{1}{10}$ $\frac{2}{10}$ $\frac{3}{10}$ $\frac{4}{10}$ $\frac{5}{10}$ $\frac{6}{10}$ $\frac{7}{10}$ $\frac{8}{10}$ $\frac{9}{10}$ $\frac{10}{10}$

f. $\frac{6}{9} = \boxed{\frac{2}{3}}$

$\frac{0}{9}$ $\frac{1}{9}$ $\frac{2}{9}$ $\frac{3}{9}$ $\frac{4}{9}$ $\frac{5}{9}$ $\frac{6}{9}$ $\frac{7}{9}$ $\frac{8}{9}$ $\frac{9}{9}$

$\frac{0}{3}$ $\frac{1}{3}$ $\frac{2}{3}$ $\frac{3}{3}$

2 a. $\frac{1}{3} = \boxed{\frac{2}{6}}$, $\frac{2}{3} = \boxed{\frac{4}{6}}$



b. $\boxed{\frac{1}{2}} = \boxed{\frac{2}{4}}$

$\frac{0}{2}$ $\frac{1}{2}$ $\frac{2}{2}$

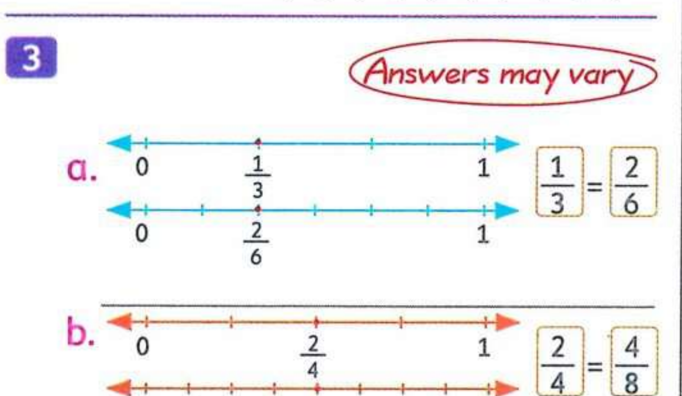
$\frac{0}{4}$ $\frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{4}$ $\frac{4}{4}$

c. $\boxed{\frac{1}{3}} = \boxed{\frac{3}{9}}$, $\boxed{\frac{2}{3}} = \boxed{\frac{6}{9}}$

$\frac{0}{3}$ $\frac{1}{3}$ $\frac{2}{3}$ $\frac{3}{3}$

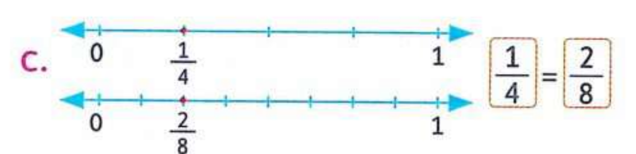
$\frac{0}{9}$ $\frac{1}{9}$ $\frac{2}{9}$ $\frac{3}{9}$ $\frac{4}{9}$ $\frac{5}{9}$ $\frac{6}{9}$ $\frac{7}{9}$ $\frac{8}{9}$ $\frac{9}{9}$

3 Answers may vary

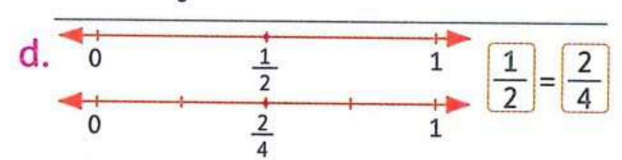


a. $\boxed{\frac{1}{3}} = \boxed{\frac{2}{6}}$

b. $\boxed{\frac{2}{4}} = \boxed{\frac{4}{8}}$



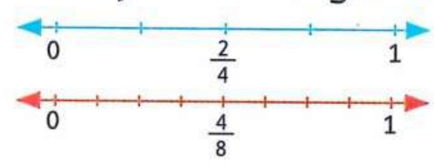
c. $\boxed{\frac{1}{4}} = \boxed{\frac{2}{8}}$



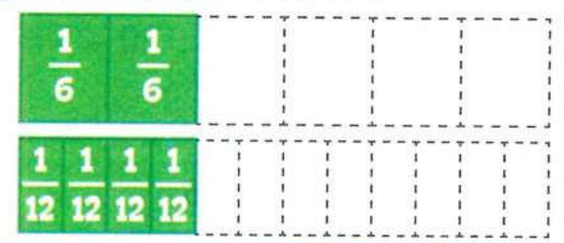
d. $\boxed{\frac{1}{2}} = \boxed{\frac{2}{4}}$

Exercise 20

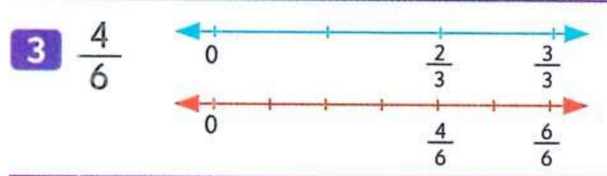
1 His family drank 4 eighths.



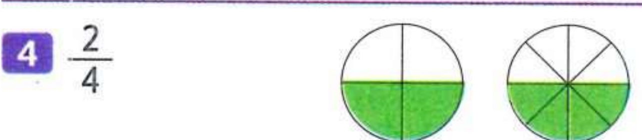
2 She will eat 4 slices.



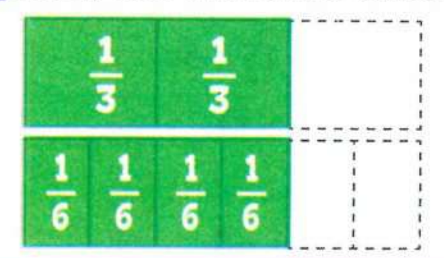
3 $\frac{4}{6}$



4 $\frac{2}{4}$



5 Both ate the same amount.



6 Write your own story problem.

Exercise 21

1

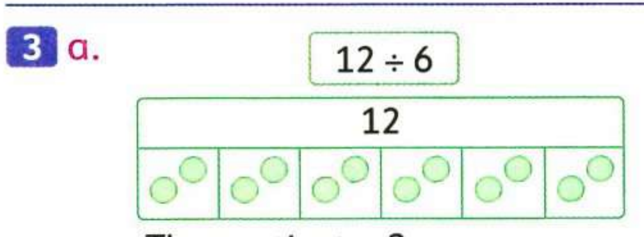
Counters	Number of equal groups	Number in each group
14	7	**2**
21	**7**	3
20	5	**4**
32	**4**	8
24	**6**	4
35	7	**5**

2 a. Division equation : $12 \div 4 = 3$
The quotient = 3

b. Division equation : $16 \div 2 = 8$
The quotient = 8

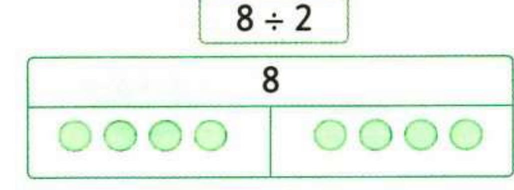
c. Division equation : $20 \div 5 = 4$
The quotient = 4

3 a.



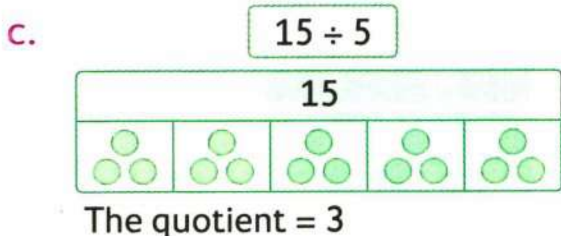
The quotient = 2

b.



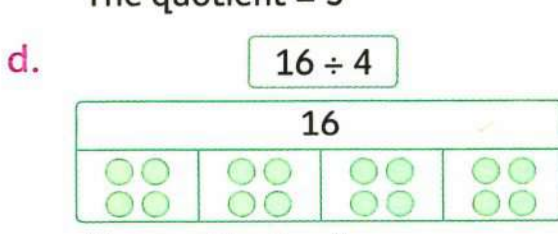
The quotient = 4

c.



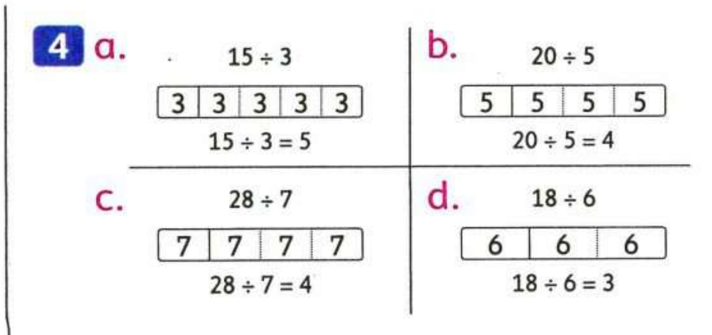
The quotient = 3

d.

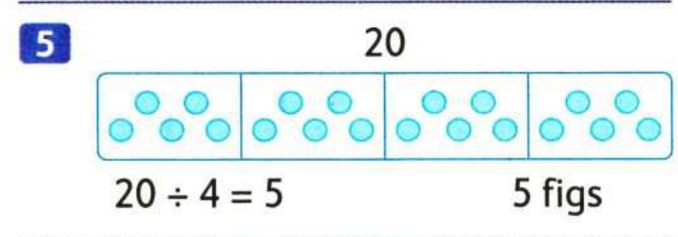


The quotient = 4

4

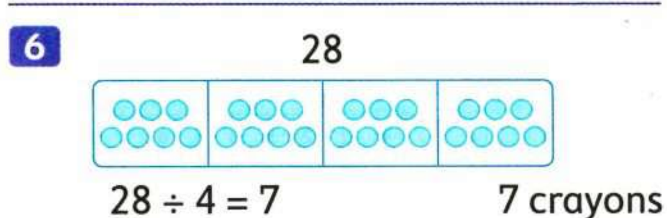


5



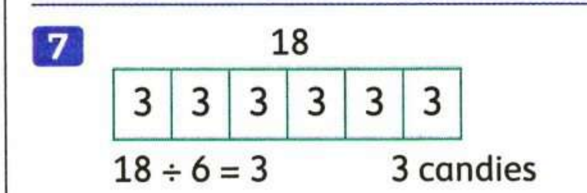
$20 \div 4 = 5$ 5 figs

6



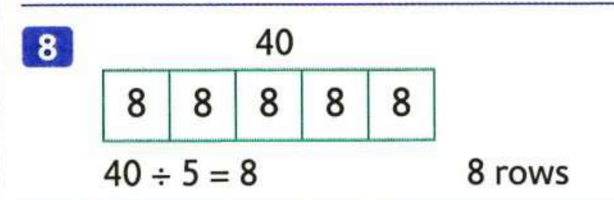
$28 \div 4 = 7$ 7 crayons

7



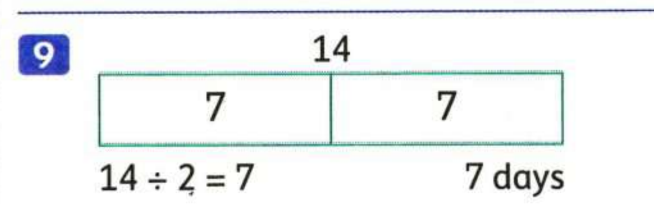
$18 \div 6 = 3$ 3 candies

8



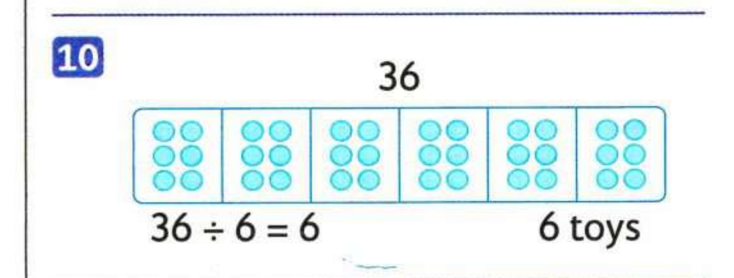
$40 \div 5 = 8$ 8 rows

9



$14 \div 2 = 7$ 7 days

10



$36 \div 6 = 6$ 6 toys

11 Write your own story problem.

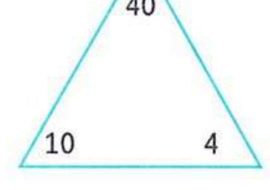
12 The stamps with Amer and Marian
= 25 + 15 = 40 stamps

40 ÷ 5 = 8 8 pages

Exercise 22

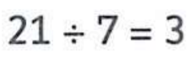
1 a. 7 × 8 = 56
8 × 7 = 56
56 ÷ 7 = 8
56 ÷ 8 = 7

b. 4 × 10 = 40
10 × 4 = 40
40 ÷ 4 = 10
40 ÷ 10 = 4

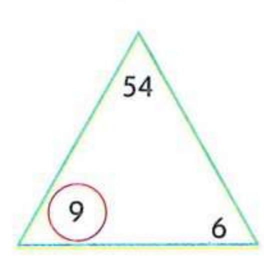


c. 4 × 8 = 32
8 × 4 = 32
32 ÷ 4 = 8
32 ÷ 8 = 4

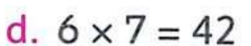
2 a. 3 × 7 = 21
7 × 3 = 21
21 ÷ 3 = 7
21 ÷ 7 = 3



b. 9 × 6 = 54
6 × 9 = 54
54 ÷ 9 = 6
54 ÷ 6 = 9

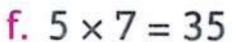


c. 4 × 9 = 36
9 × 4 = 36
36 ÷ 4 = 9
36 ÷ 9 = 4

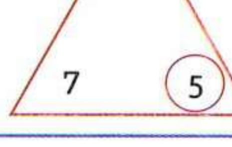


d. 6 × 7 = 42
7 × 6 = 42
42 ÷ 6 = 7
42 ÷ 7 = 6

e. 2 × 12 = 24
12 × 2 = 24
24 ÷ 2 = 12
24 ÷ 12 = 2



f. 5 × 7 = 35
7 × 5 = 35
35 ÷ 5 = 7
35 ÷ 7 = 5



3 a. 5 × 7 = 35 b. 9 × 2 = 18
c. 30 ÷ 5 = 6

4 a. 5 , 3 b. 2 , 5

5 a. 5 × 6 = 30
6 × 5 = 30
30 ÷ 5 = 6
30 ÷ 6 = 5

b. 6 × 9 = 54
9 × 6 = 54
54 ÷ 6 = 9
54 ÷ 9 = 6

c. 3 × 4 = 12
4 × 3 = 12
12 ÷ 3 = 4
12 ÷ 4 = 3

d. 8 × 9 = 72
9 × 8 = 72
72 ÷ 8 = 9
72 ÷ 9 = 8

Answers of Chapter 11

Exercise 23

1 a. Count by 5s seven times

5 , 10 , 15 , 20 , 25 , 30 , 35

$7 \times 5 = 35$

b. $4 + 4 = 8$ (Double 4)

$2 \times 4 = 8$

c. $10 \times 6 = 60$ (Multiply by 10)

$60 + 6 = 66$

(Add one more group of 6)

d. $9 \times 9 = 81$

Count the fingers to the ninth finger and count the rest fingers.

e. $2 \times 6 = 12$

$12 + 12 = 24$

(Double 6 and then double the product 12 to get the product 24)

f. $10 \times 4 = 40$

$2 \times 4 = 8$

$40 + 8 = 48$

(Multiply by 10 and multiply by 2, then add the products)

g. Count by 5s five times

5 , 10 , 15 , 20 , 25

$5 \times 5 = 25$

h. $5 \times 8 = 40$ (Multiply by 5)

$2 \times 8 = 16$ (Multiply by 2 and

$40 + 16 = 56$ add the products)

i. $5 \times 6 = 30$ (Multiply by 5 and

$30 + 6 = 36$ add one group of 6)

2 First

a. 63 b. 24 c. 16 d. 48

e. 33 f. 48 g. 60 h. 12

i. 8 j. 56

Second

a. 3 b. 77 c. 100 d. 45

e. 36 f. 7 g. 12 h. 8

i. 30 j. 0

Third

a. 27 b. 9 c. 30 d. 10

e. 32 f. 72 g. 21 h. 12

i. 45 j. 9

Fourth

a. 40 b. 16 c. 40 d. 15

e. 36 f. 80 g. 24 h. 55

i. 4 j. 24

3 a. 9×2 b. 8×3

c. 5×8 d. 12×4

e. 6×6

4 a. < b. > c. = d. >
e. < f. > g. = h. <
i. < j. > k. = l. <
m. < n. =

5 a.

×	1	4	3	10	9	7
5	5	20	15	50	45	35

b.

×	8	1	5	10	9	12
2	16	2	10	20	18	24

c.

×	2	7	11	8	3	10
6	12	42	66	48	18	60

d.

×	3	8	12	9	6	2
4	12	32	48	36	24	8

e.

×	0	2	10	12	9	4
7	0	14	70	84	63	28

f.

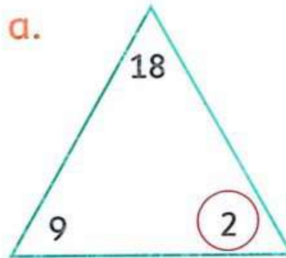
×	2	7	10	8	6	11
3	6	21	30	24	18	33

6 a. 24 b. 20
c. 36 d. 12 or 18

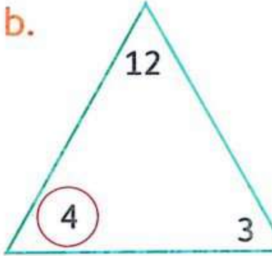
Exercise 24

1

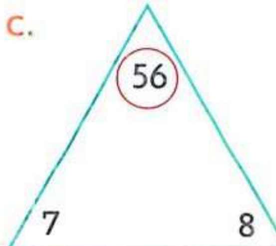
a.



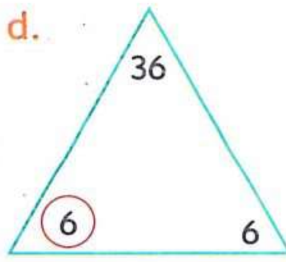
b.



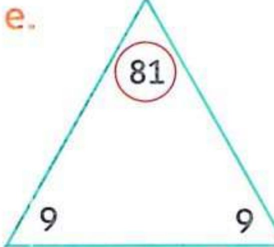
c.



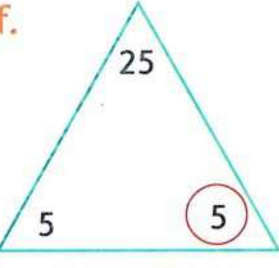
d.



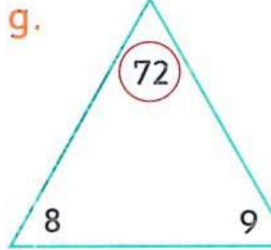
e.



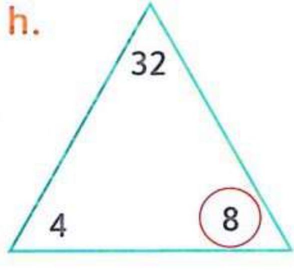
f.



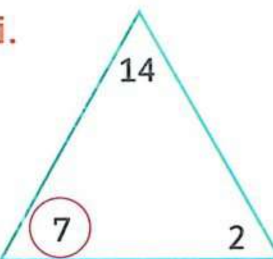
g.



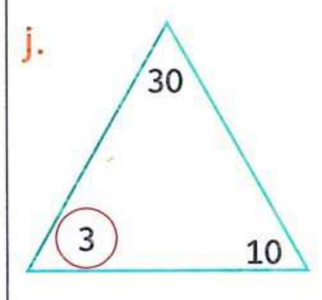
h.



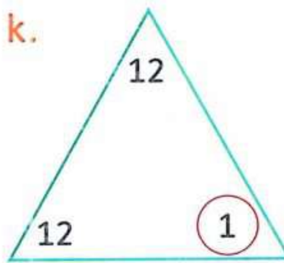
i.



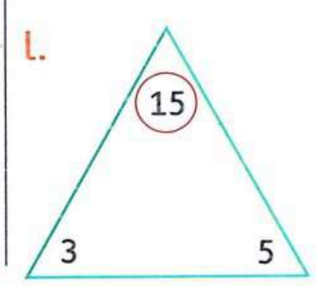
j.



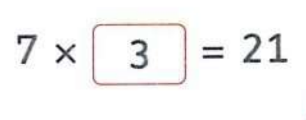
k.

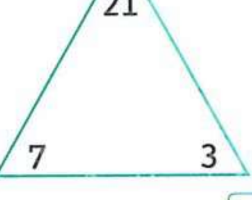


l.



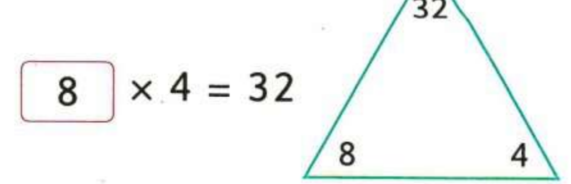
2 a.





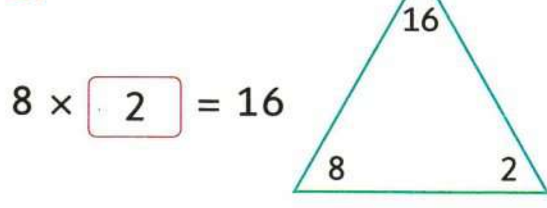
b. $10 \div \boxed{2} = 5$

c. $\boxed{8} \times 4 = 32$



d. $\boxed{27} \div 3 = 9$

e. $8 \times \boxed{2} = 16$

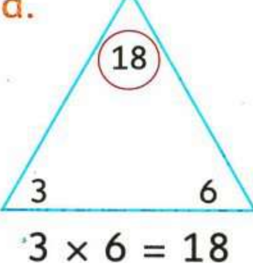


f. $49 \div \boxed{7} = 7$

g. $\boxed{6} \times 6 = 36$

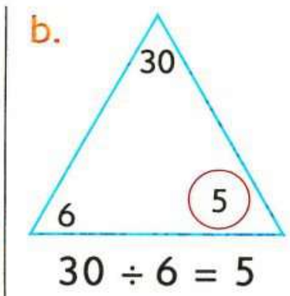
h. $\boxed{24} \div 8 = 3$

3 a.



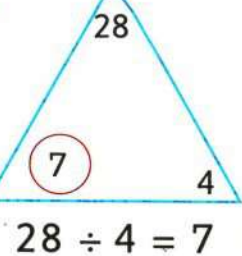
$3 \times 6 = 18$

b.



$30 \div 6 = 5$

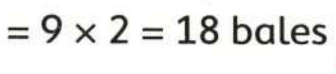
c.



$28 \div 4 = 7$

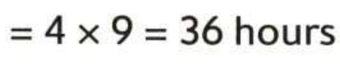
4 a. 5 b. 3 c. 5 d. 12
e. 2 f. 9 g. 10 h. 2
i. 2 j. 3

5 a. The number of bales of hay
$= 9 \times 2 = 18$ bales

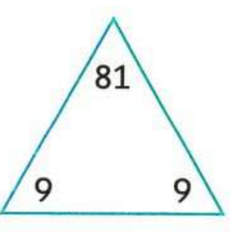


b. The number of cookies
$= 24 \div 8 = 3$ cookies

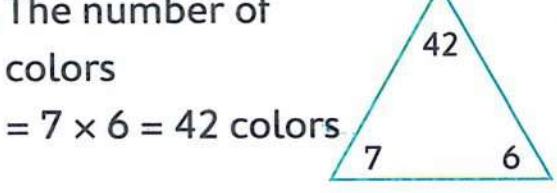
c. The number of hours
$= 4 \times 9 = 36$ hours



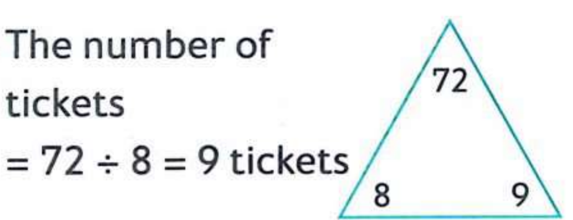
d. The number of crocodiles
$= 81 \div 9$
$= 9$ crocodiles



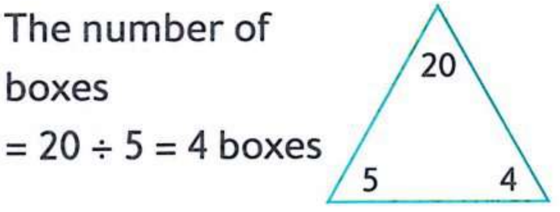
e. The number of colors
$= 7 \times 6 = 42$ colors



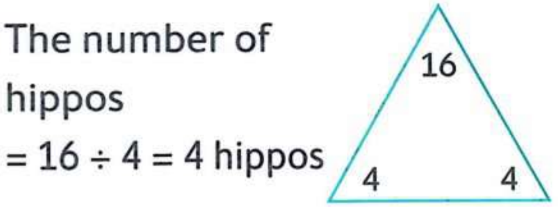
f. The number of tickets
$= 72 \div 8 = 9$ tickets



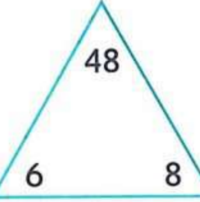
g. The number of boxes
$= 20 \div 5 = 4$ boxes



h. The number of hippos
$= 16 \div 4 = 4$ hippos



i. The number of chairs
$= 48 \div 6 = 8$ chairs



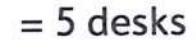
6 Write the story problem by yourself.

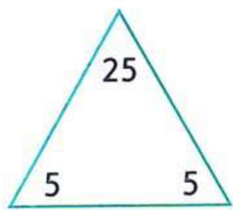
a. 28 b. 72

7 Write the story problem by yourself.

a. 4 b. 4

8 Number of desks in each row


= 5 desks



Exercise 25

1 a. Perimeter = 12 cm
Area = 9 square cm

b. Perimeter = 8 cm
Area = 4 square cm

c. Perimeter = 16 cm
Area = 16 square cm

d. Perimeter = 12 cm
Area = 8 square cm

e. Perimeter = 8 cm
Area = 3 square cm

f. Perimeter = 16 cm
Area = 15 square cm

2 a. 20 b. 24 c. 49
d. 34 e. 15 f. 5

3 a. 36 b. 20 c. 10
d. 36 e. 3 f. 4

4 a.

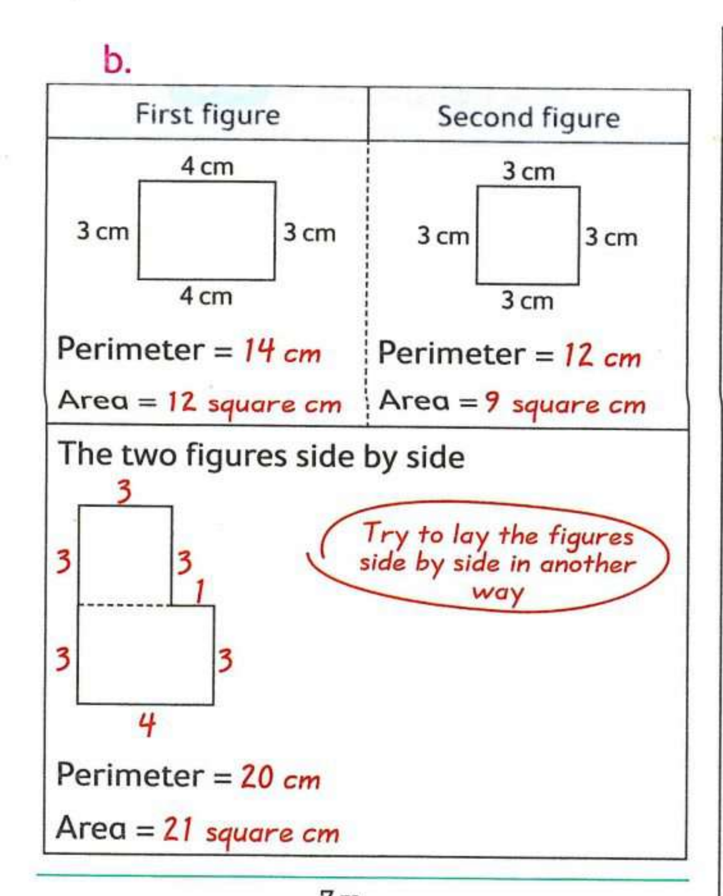
First figure	Second figure
5 cm, 2 cm, 2 cm, 5 cm Perimeter = *14 cm* Area = *10 square cm*	2 cm, 2 cm, 2 cm, 2 cm Perimeter = *8 cm* Area = *4 square cm*

Try to lay the figures side by side in another way

5 cm *2 cm*
2 cm *2 cm*
5 cm *2 cm*

Perimeter = *18 cm*
Area = *14 square cm*

b.



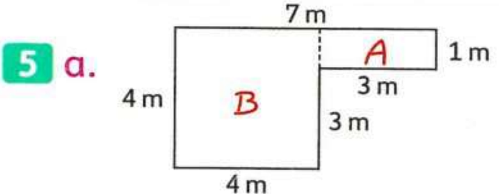
First figure	Second figure
4 cm, 3 cm, 3 cm, 4 cm	3 cm, 3 cm, 3 cm, 3 cm
Perimeter = 14 cm	Perimeter = 12 cm
Area = 12 square cm	Area = 9 square cm

The two figures side by side

Perimeter = 20 cm

Area = 21 square cm

5 a.



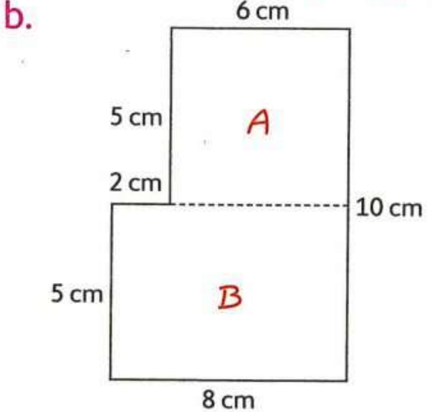
Perimeter = 22 m

Area of rectangle A = 3 x 1 = 3 square m

Area of square B = 4 x 4 = 16 square m

Area of whole figure = 3 + 16 = 19 square m

b.



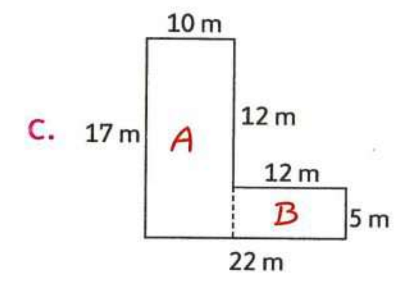
Perimeter = 36 cm

Area of rectangle A = 5 x 6 = 30 square cm

Area of rectangle B = 5 x 8 = 40 square cm

Area of whole figure = 30 + 40 = 70 square cm

c.



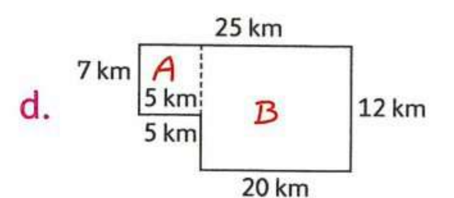
Perimeter = 78 m

Area of rectangle A = 17 x 10
= 170 square m

Area of rectangle B = 5 x 12
= 60 square m

Area of whole figure = 170 + 60
= 230 square m

d.



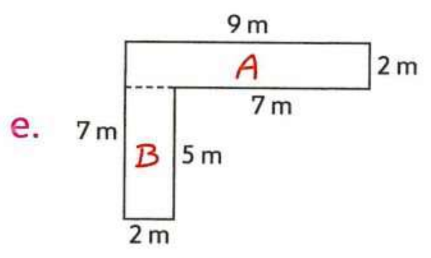
Perimeter = 74 km

Area of rectangle A = 7 x 5
= 35 square km

Area of rectangle B = 20 x 12
= 240 square km

Area of whole figure = 35 + 240
= 275 square km

e.



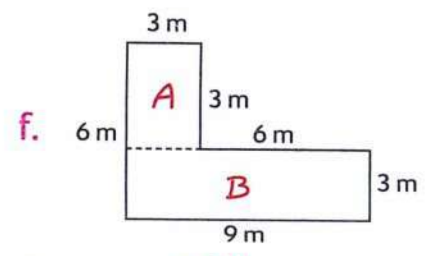
Perimeter = 32 m

Area of rectangle A = 9 x 2 = 18 square m

Area of rectangle B = 5 x 2 = 10 square m

Area of whole figure = 18 + 10 = 28 square m

f.



Perimeter = 30 m

Area of rectangle A = 3 x 3 = 9 square m

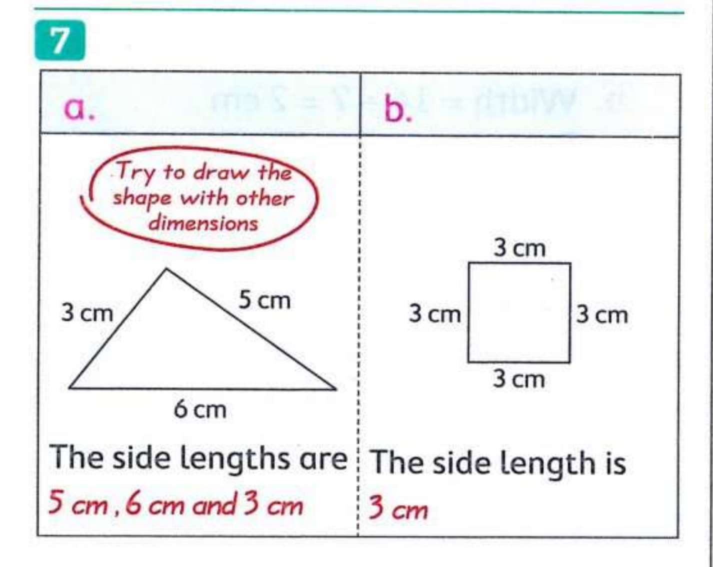
Area of rectangle B = 9 x 3 = 27 square m

Area of whole figure = 9 + 27 = 36 square m

6

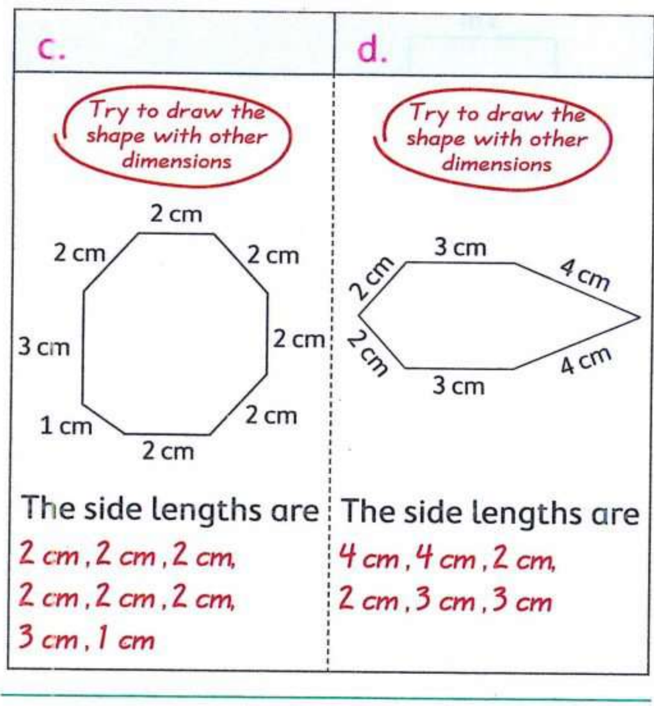
a. First figure	b. Second figure
3 cm, 2 cm, 2 cm, 3 cm	4 cm, 4 cm, 4 cm, 4 cm
Perimeter = 10 cm	Perimeter = 16 cm
Area = 6 square cm	Area = 16 square cm

7



a. The side lengths are 5 cm, 6 cm and 3 cm

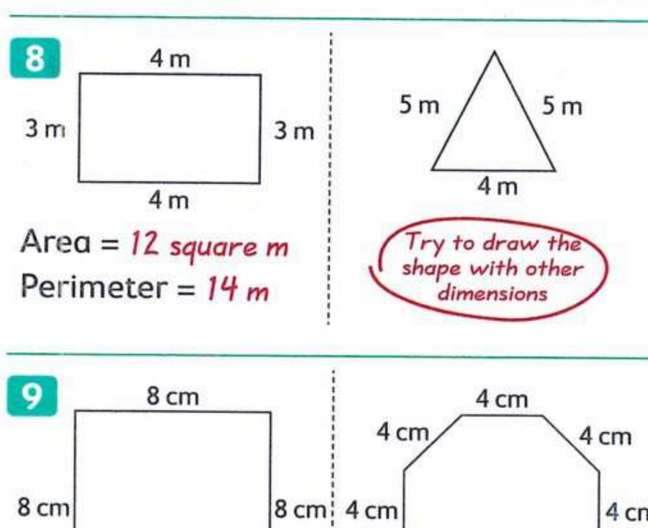
b. The side length is 3 cm



c. The side lengths are 2 cm, 2 cm, 2 cm, 2 cm, 2 cm, 2 cm, 3 cm, 1 cm

d. The side lengths are 4 cm, 4 cm, 2 cm, 2 cm, 3 cm, 3 cm

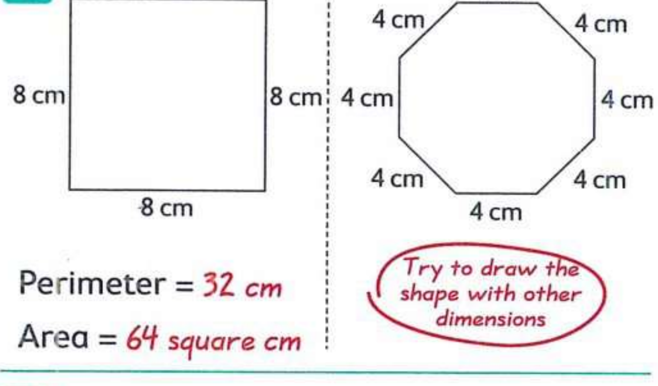
8



Area = 12 square m

Perimeter = 14 m

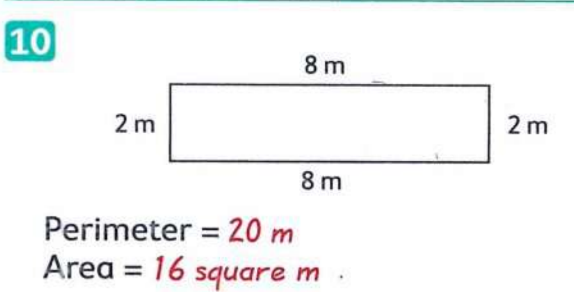
9



Perimeter = 32 cm

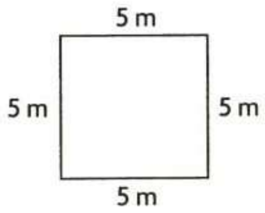
Area = 64 square cm

10



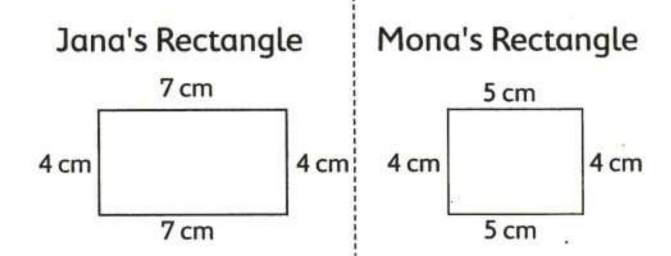
Perimeter = 20 m

Area = 16 square m

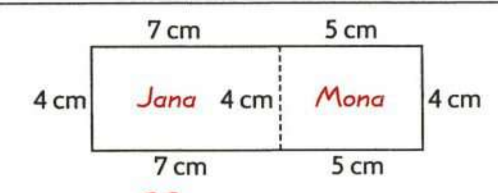


Her rug looks like a square
Perimeter = *20 m*

11

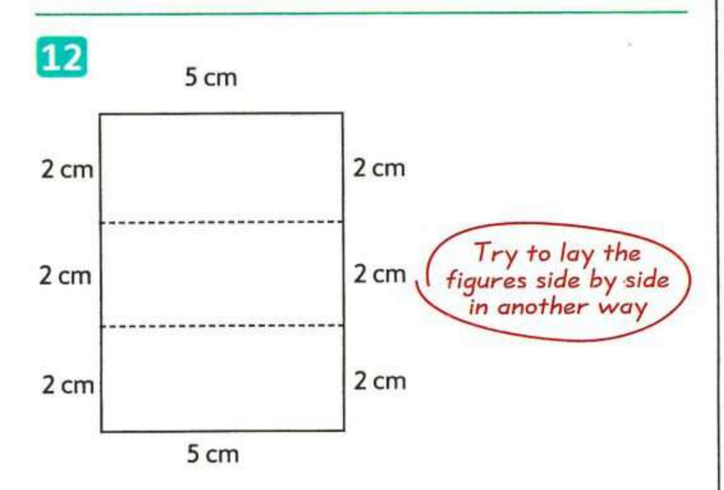


Perimeter of Jana's rectangle = *22 cm*
Perimeter of Mona's rectangle = *18 cm*



Perimeter = *32 cm*
Area = *48 square cm*

12



Perimeter of one rectangle = *14 cm*

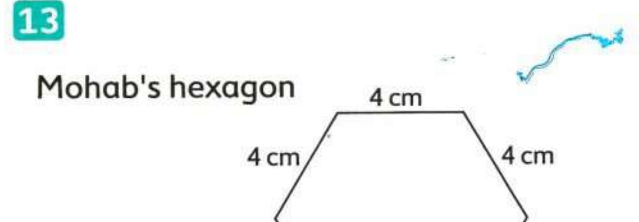
Area of one rectangle = *10 square cm*

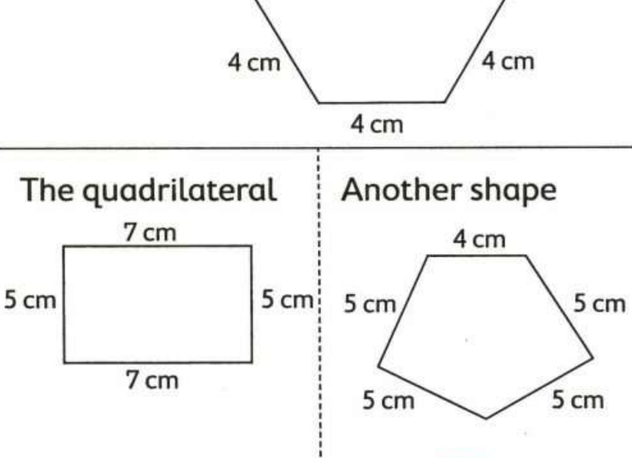
Perimeter of three rectangles = *22 cm*

Area of three rectangles = *30 square cm*

13

Mohab's hexagon





Exercise 26

1 a. Length = 10 ÷ 2 = 5 cm
Perimeter = 2 × (5 + 2) = 14 cm

b. Width = 14 ÷ 7 = 2 cm
Perimeter = 2 × (7 + 2) = 18 cm

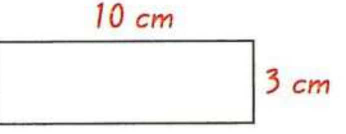
c. Length = 15 ÷ 3 = 5 m
Perimeter = 2 × (5 + 3) = 16 m

d. Width = 24 ÷ 8 = 3 m
Perimeter = 2 × (8 + 3) = 22 m

e. Length = 32 ÷ 4 = 8 m
Perimeter = 2 × (8 + 4) = 24 m

2 Width = 30 ÷ 6 = 5 cm
Perimeter = 2 × (6 + 5) = 22 cm
Perimeter = 2 × (10 + 3) = 26 cm

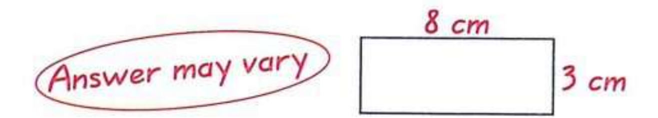
Answer may vary



3 Width = 24 ÷ 6 = 4 cm

Perimeter = 2 × (6 + 4) = 20 cm

Perimeter = 2 × (8 + 3) = 22 cm



4 Length = 28 ÷ 4 = 7 cm

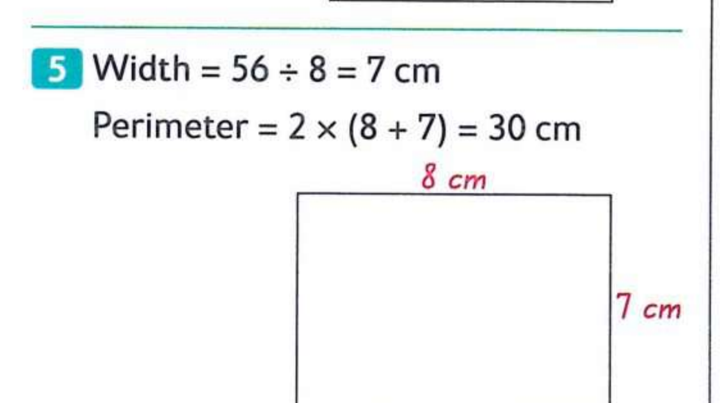
Perimeter = 2 × (7 + 4) = 22 cm

7 cm

4 cm

5 Width = 56 ÷ 8 = 7 cm

Perimeter = 2 × (8 + 7) = 30 cm



6 Perimeter = 5 + 5 + 5 + 5 + 5 + 5 + 5 + 5

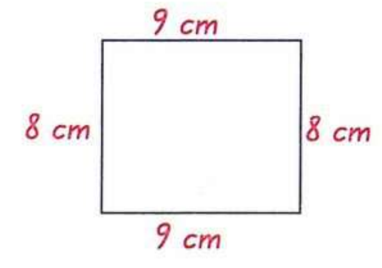
= 40 cm

Area of total shape = 25 + 25 + 25 + 25

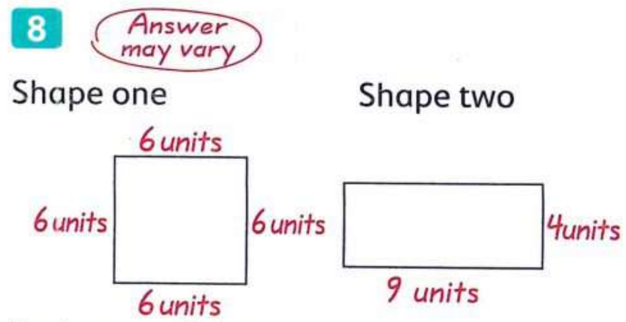
= 100 square cm

7 The length = 72 ÷ 9 = 8 cm

The perimeter = 2 × (9 + 8) = 34 cm



8 Answer may vary



Perimeter of the square
= 6 + 6 + 6 + 6 = 24 units

Perimeter of the rectangle
= 9 + 4 + 9 + 4 = 26 units

Exercise 27

1

Place	Area	Perimeter
Master Room	7×8=56 square units	7+8+7+8=30 units
Bathroom	4×4=16 square units	4+4+4+4=16 units
Kitchen	(5×2)+(8×2) =10+16=26 square units	8+7+2+5+6+2 =30 units
Dinning Room	5×6=30 square units	5+6+5+6=22 units
Kids Room	7×5=35 square units	7+5+7+5=24 units
Enterance & Hallway	4×7=28 square units	4+7+4+7=22 units
Living Room	6×5=30 square units	6+5+6+5=22 units
Balcony	2×5=10 square units	2+5+2+5=14 units
Total	56+16+26 +30+35+28 +30+10=231 square units	8+1+4+1+8 +7+5+2+6+4 +7+5+1+7=66 units

2 Answer by yourself.

Answers of Chapter 12

Exercise 28

1 a, b, d, e, f, h

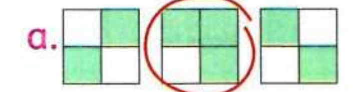
2
a. ① 6 ② 3 ③ 3 ④ $\frac{1}{2}$

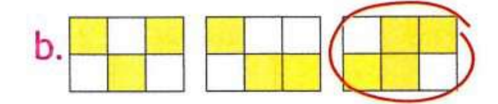
b. ① 12 ② 6 ③ 6 ④ $\frac{1}{2}$

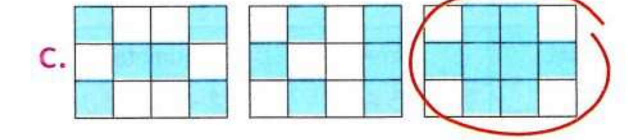
c. ① 12 ② 6 ③ 6 ④ $\frac{1}{2}$

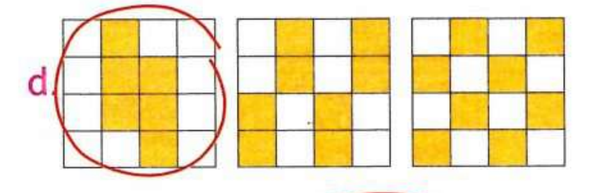
d. ① 6 ② 3 ③ 3 ④ $\frac{1}{2}$

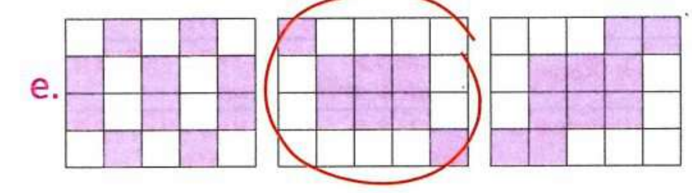
3

a. 

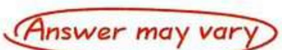
b. 

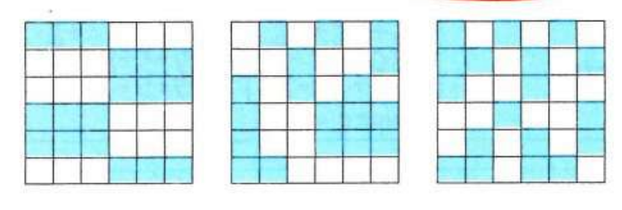
c. 

d. 

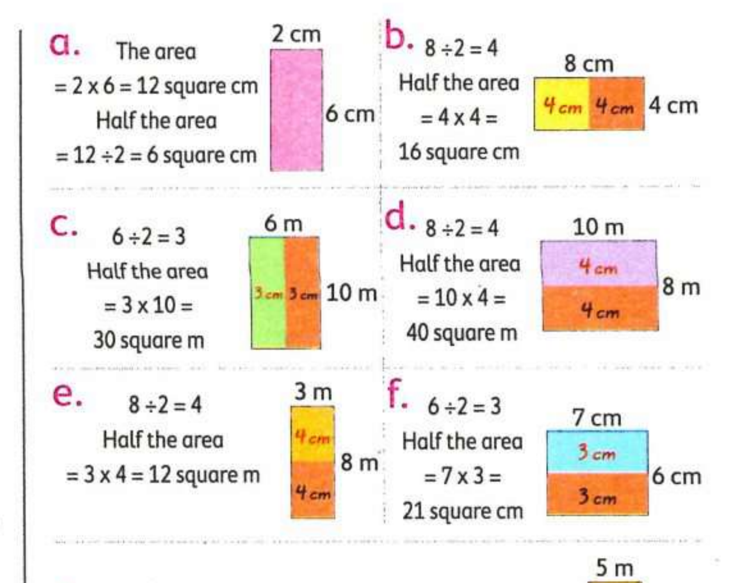
e. 

4





5



g. The area = 5 x 8 = 40 square m
Half the area
= 40 ÷ 2 = 20 square m

5 m
8 m

h. 4 ÷ 2 = 2
Half the area
= 11 x 2 = 22 square cm

11 cm
2 cm
2 cm
4 cm

6 Yes, because the number of colored parts = the number of uncolored parts

7 No, because the number of colored parts does not equal the number of uncolored parts.

8 Yes, because the number of full spaces = the number of empty spaces

9 No, because the number of full spaces does not equal the number of empty spaces.

10 a. 12 b. 24 c. width d. 80

11 8 ÷ 2 = 4
The area of $\frac{1}{2}$ the garden
= 4 x 10 = 40 square meters

12 $6 \div 2 = 3$

The area of half the garden
$= 3 \times 8 = 24$ square meters

13 The area of the wall $= 8 \times 4$
$= 32$ square meters
The area should he paint with one color $= 32 \div 2 = 16$ square meters

14 The area of the paper $= 8 \times 6$
$= 48$ square units
She can wrap one present because two presents need
$32 + 32 = 64$ square units

15 The area of the paper $= 6 \times 5$
$= 30$ square units
He can wrap two presents because $15 + 15 = 30$ square units

16 Area of the rectangle $= 20 + 20$
$= 40$ square cm
The width $= 40 \div 8 = 5$ cm

Exercise 29

1 a. $\frac{2}{6}$; 0, $\frac{1}{6}$, $\frac{1}{3}$, $\frac{3}{6}$, 1

b. 0, $\frac{1}{5}$, $\frac{3}{10}$, $\frac{5}{10}$, $\frac{4}{4}$

c. $\frac{0}{5}$, $\frac{1}{3}$, $\frac{3}{6}$, $\frac{2}{3}$, 1

d. 0, $\frac{2}{8}$, $\frac{1}{4}$, $\frac{3}{6}$, $\frac{7}{8}$, 1

e. 0, $\frac{1}{10}$, $\frac{1}{2}$, $\frac{3}{5}$, $\frac{6}{6}$

f. 0, $\frac{1}{6}$, $\frac{2}{6}$, $\frac{4}{6}$, $\frac{4}{4}$

2 a. 0, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{6}{10}$, $\frac{4}{5}$, 1

The order is : $\frac{1}{5}, \frac{2}{5}, \frac{6}{10}, \frac{4}{5}$

b. 0, $\frac{1}{4}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1

The order is : $\frac{1}{4}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$

c. 0, $\frac{1}{3}$, $\frac{1}{2}$, $\frac{4}{6}$, $\frac{5}{6}$, 1

The order is : $\frac{1}{3}, \frac{1}{2}, \frac{4}{6}, \frac{5}{6}$

3 a. 0, $\frac{2}{3}$, $\frac{4}{6}$, $\frac{3}{4}$, $\frac{4}{4}$

b. $\frac{2}{8}$, $\frac{1}{3}$, $\frac{6}{8}$, $\frac{12}{12}$

c. 0, $\frac{2}{8}$, $\frac{1}{4}$, $\frac{3}{6}$, $\frac{7}{8}$, 1

d. 0, $\frac{2}{8}$, $\frac{1}{4}$, $\frac{6}{12}$, $\frac{10}{12}$, 1

e. 0, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{3}{6}$, $\frac{5}{6}$, 1

f. 0, $\frac{1}{2}$, $\frac{2}{3}$, $\frac{5}{6}$, $\frac{7}{7}$

4 Answers may vary.

Exercise 30

1
a. 982,312
b. 46,256
c. 301,301
d. Fourteen thousand , seven hundred eighty
e. Three hundred eight thousand , five hundred sixty two

2
a. 452,173 = 400, 000 + 50, 000 + 2, 000 + 100 + 70 + 3
b. 603,426 = 600, 000 + 3, 000 + 400 + 20 + 6
c. 76,289 = 70, 000 + 6, 000 + 200 + 80 + 9
d. 1,765 = 1, 000 + 700 + 60 + 5
e. 20,196 = 20, 000 + 100 + 90 + 6
f. 7,053 = 7, 000 + 50 + 3

3

		place value	value
a.	42,517	thousands	2, 000
b.	104,728	thousands	4, 000
c.	580,609	hundred thousand	500, 000
d.	600,006	ten thousands	0
e.	31,984	tens	80
f.	5,128	ones	8
g.	63,810	ten thousands	[illegible]0, 000
h.	710,014	tens	[illegible]0
i.	85,002	tens	0
j.	2,739	hundreds	700

4
a. 14,536
b. 832,497
c. 540,512
d. 207,065
e. 750
f. 5,470
g. 537
h. 36,016

5
a. <
b. <
c. >
d. >
e. <
f. <
g. <
h. >
i. >
j. >
k. >
l. =
m. <
n. <
o. >
p. <

6

	greatest	least
a.	4, 321	1, 234
b.	9, 841	1, 489
c.	7, 540	4, 057
d.	9, 730	3, 079
e.	96, 432	23, 469
f.	76, 211	11, 267
g.	86, 410	10, 468
h.	976, 420	204, 679
i.	875, 431	134, 578
j.	943, 220	202, 349

7
a. 373,207
b. <
c. 9,730
d. 105,678
e. 3
f. 943,107
g. 351,869

8 a. The order is : 6,950 , 61,734 , 61,850 , 116,658

b. The order is : 9,706 , 74,005 , 91,234 , 561,248

c. The order is : 345,001 , 345,010 , 354,010 , 543,100

d. The order is : 599 , 9,730 , 34,170 , 35,005 , 705,662

9 a. The order is : 109,010 , 22,012 , 14,235 , 8,234

b. The order is : 37,903 , 37,309 , 8,562 , 4,298

c. The order is : 100,702 , 100,701 , 99,358 , 98,781 , 8,359

d. The order is : 801,014 , 80,949 , 80,499 , 8,941 , 801

10 a. 3,822 b. 602

Exercise 31

1 a. 2 hours and 30 minutes
b. 3 hours and 10 minutes
c. 2 hours and 30 minutes
d. 2 hours and 15 minutes

2 a. 3 hours and 25 minutes
b. 0 hour and 30 minutes
c. 4 hours and 30 minutes
d. 3 hours and 50 minutes
e. 6 hours and 15 minutes

3 They were at the museum for 5 hours and 30 minutes.

4 The elapsed time is 7 hours and 45 minutes.

5 a. They were on the road for 4 hours and 45 minutes.

b. They started driving again at 12 : 45 P.M.

6 It took 1 hour and 40 minutes.

7 She started at 3 : 10 P.M.

8 30 + 45 + 35 = 110 minutes
= 1 hour and 50 minutes
Yes, because she finished at 5 : 50 P.M.

9 15 minutes + 1 hour + 30 minutes + 20 minutes = 2 hours and 5 minutes
He got home at 5 : 35 P. M .

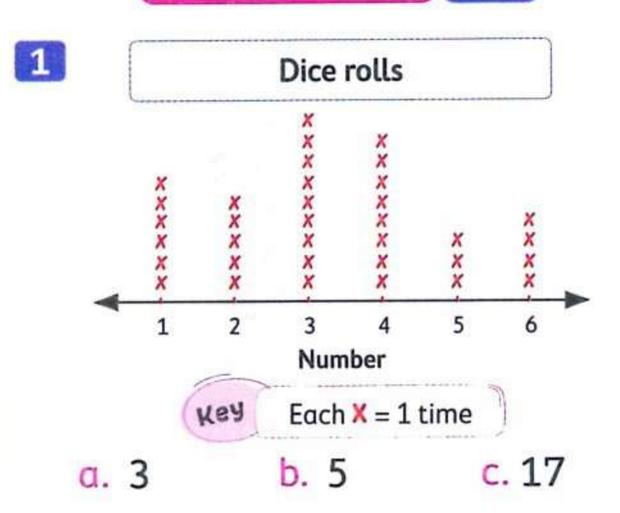
10 a. What it takes = 22 + 20 + 18
= 60 minutes

b. What it takes = 15 + 20 + 11
= 46 minutes

c. The difference = 60 - 46
= 14 minutes

Exercise 32

1

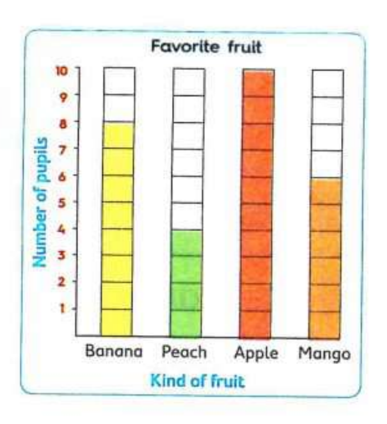


a. 3 b. 5 c. 17

d. 18 e. 1

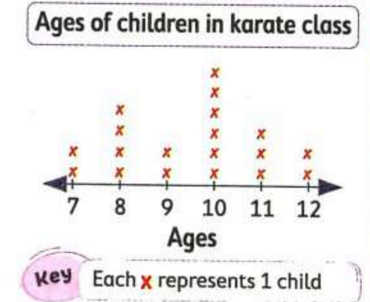
2

Favorite fruit		
Fruit	Tally	Number
Banana	𝍸 |||	8
Peach	||||	4
Apple	𝍸 𝍸	10
Mango	𝍸		6



a. Apple b. Peach c. 2

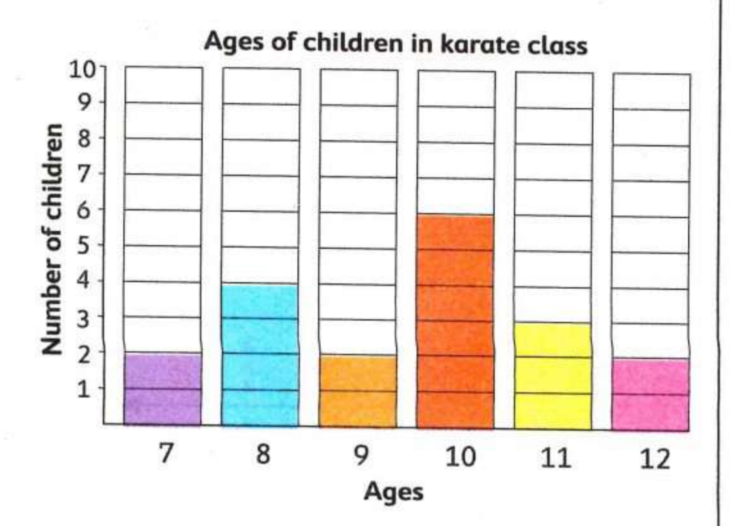
3



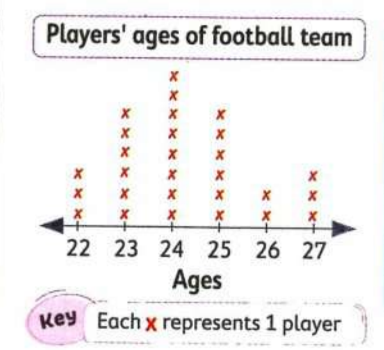
Ages of children in karate class		
Age in years	Tally	Number
7				2
8						4
9				2
10	𝍸		6
11					3
12				2

a. 3 b. 10

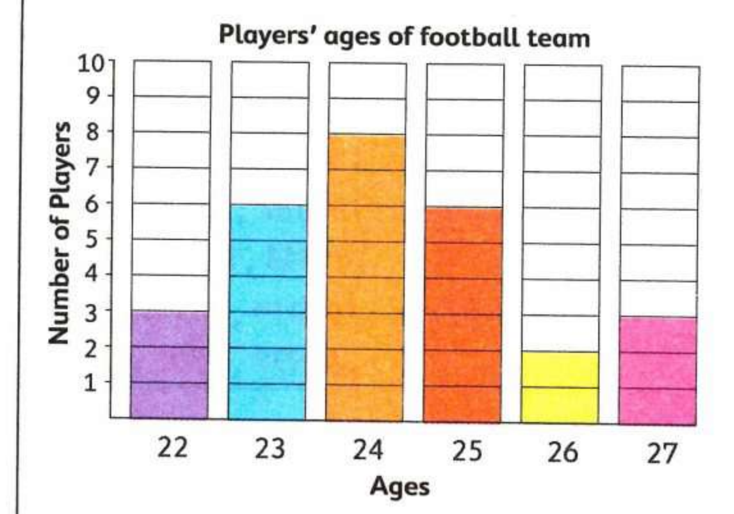
c. 12 d. 19



4



Players' ages of football team		
Age in years	Tally	Number
22					3
23	𝍸		6
24	𝍸 |||	8
25	𝍸		6
26				2
27					3

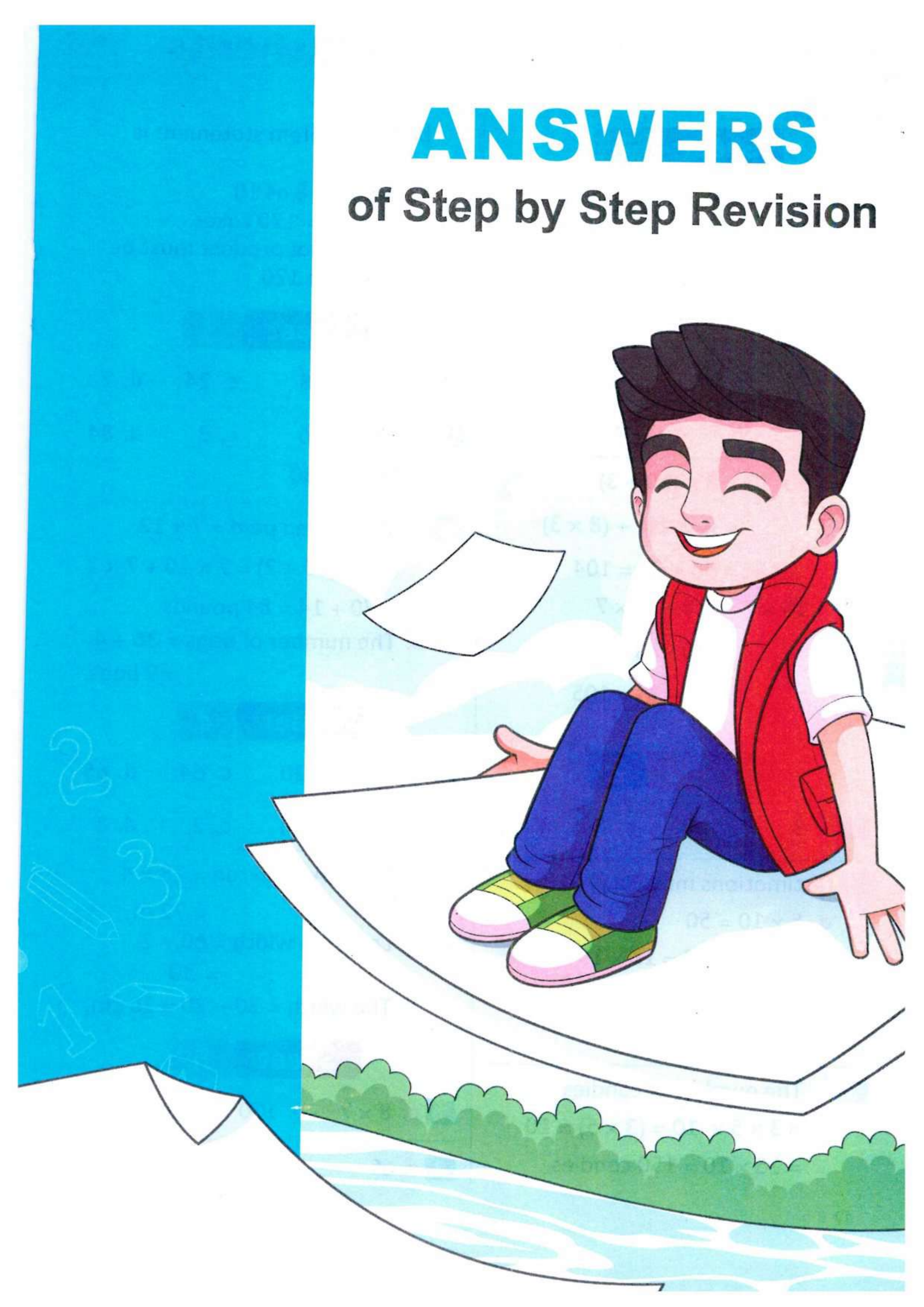


a. 6

b. 24 years old

c. 23

d. 28



ANSWERS

of Step by Step Revision

Answers of Worksheets

Sheet 1

1 a. $3 \times 8 = 24$

b. $30 \times 7 = 210$

c. $20 \times 9 = 180$

d. 10 e. 8

2 a. 3 b. 48 c. 10 d. 1

3 a. $<$ b. $=$ c. $<$

4 a. $8 \times 13 = 8 \times (10 + 3)$

$= (8 \times 10) + (8 \times 3)$

$= 80 + 24 = 104$

b. $15 \times 7 = (10 + 5) \times 7$

$= (10 \times 7) + (5 \times 7)$

$= 70 + 35 = 105$

Sheet 2

1 a. 3 b. 40 c. 5 d. 50

2 (Estimations may vary)

a. $5 \times 10 = 50$

b. $(3 \times 6) \times 10 = 18 \times 10 = 180$

c. $10 \times 4 = 40$

d. $7 \times 20 = 140$

3 a. The number of candies

$= 3 \times 5 \times 10 = (3 \times 5) \times 10$

$= 15 \times 10 = 150$ candies.

b. The problem statement is

12×8

Suppose 8 as 10

$12 \times 10 = 120$ cakes.

The actual product must be less than 120

Sheet 3

1 a. 9 b. 8 c. 24 d. 7

2 a. 20 b. 6 c. 3 d. 84

e. 10 f. 30

3 a. What Dina paid $= 7 \times 12$

$= 7 \times (10 + 2) = 7 \times 10 + 7 \times 2$

$= 70 + 14 = 84$ pounds.

b. The number of bags $= 36 \div 4$

$= 9$ bags.

Sheet 4

1 a. 36 b. 20 c. 64 d. 65

2 a. 48 b. 80 c. 2 d. 8

3 a. What Ayman ran $= 18 \times 4$

$= 72$ m.

b. Length + width $= 60 \div 2$

$= 30$

The width $= 30 - 20 = 10$ cm.

Sheet 5

1 a. 8×7 b. 170 c. 8 d. 3

2 a. ✓ b. ✓ c. ✗ d. ✗

3 a. The price of 4 kilograms of apple = $4 \times 9 = 36$ pounds.

What they paid = $25 + 36$
= 61 pounds.

b. The rest = $85 - 45$
= 40 pounds.

What Martin has = $40 \div 5$
= 8 pounds.

Assessment - Chapter 7

1 a. 10×6 b. 8 c. 28
d. 8 e. 10 f. 4

2 a. 2 b. 5 c. 4
d. 4 e. 18 f. 4

3 a. ✗ b. ✗ c. ✓
d. ✓ e. ✓ f. ✗

4 a. 6 b. 2 c. 5
d. 0 e. 4 f. 10
g. 1 h. 11

5 a. The side length = $32 \div 4 = 8$ cm.

b. Length + width = $22 \div 2 = 11$ m.

The length = $11 - 5 = 6$ m.

6 The price of all pens
= $50 - 10 = 40$ pounds.
The price of each pen
= $40 \div 8 = 5$ pounds.

7 The total number of boxes
= $21 \div 3 = 7$ boxes.
The needed boxes = $7 - 4$
= 3 boxes.

8 The price of pizza slices
= $3 \times 9 = 27$ pounds.

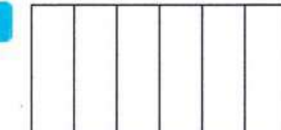
The rest = $30 - 27 = 3$ pounds.

Sheet 6

1 a. 4 unequal parts b. 5
c. $\frac{1}{5}$ d. $\frac{1}{8}$ e. 10

2 a. 5 b. 4 c. 8 d. 22

3



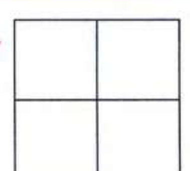
(The figure may vary)

4 a. $\frac{1}{7}$ b. $\frac{1}{8}$

Sheet 7

1 a. 2 equal parts b. sixths
c. fourths d. 9

2 a.



b.

3 a. $\frac{1}{6}$ b. $\frac{1}{6}$

Sheet 8

1 a. > b. $\frac{1}{10}$ c. 6
d. < e. 7 f. 360

2 a. $\frac{1}{5}$ b. $\frac{1}{3}$ c. $\frac{1}{8}$
d. $\frac{1}{4}$ e. $\frac{1}{6}$ f. $\frac{1}{2}$

3 Length + width = 18 ÷ 2 = 9

Length = 9 – 4 = 5 cm.

4 $\frac{1}{4}$

Sheet 9

1 a. $\frac{1}{3}$ of a watermelon

b. $\frac{1}{5}$ of a meter

c. $\frac{1}{2}$ of a kilogram

d. $\frac{1}{4}$ of a liter

2 a. Fourths b. Fifths

c. Thirds d. Eighths

3 a. < b. > c. < d. > e. >

4 The rest = 217 – 167 = 50 L.E.

What each friend got

= 50 ÷ 5 = 10 L.E.

Sheet 10

1 a. $\frac{5}{5}$ b. 3

c. (7 × 10) + (7 × 3)

d. 10 e. 10 f. >

2 a. 16 b. $\frac{8}{8}$ c. 24

d. 26 e. 3

3 a. What he needs = 24 ÷ 3

= 8 bags.

b. $\frac{1}{4} > \frac{1}{10}$ Maged ran farther.

Sheet 11

1 a. > b. < c. 3 d. 6 e. 7

2 a. 9 b. 2 c. 17 d. 4

e. 4 f. 8 g. 4 h. $\frac{1}{4}$

3 a. The number of candies

= 8 ÷ 4 = 2 candies.

b. Each friend will get

= 35 ÷ 5 = 7 L.E.

Assessment - Chapter 8

1 a. $\frac{1}{3}$ b. 4

c. $\frac{1}{2}$ d. fourths

2 a. < b. 7 c. 5

d. sixths e. < f. $\frac{1}{3}$

3 a. $\frac{1}{4}$ b. $\frac{1}{8}$ c. $\frac{1}{3}$ d. $\frac{1}{5}$

4 a. 6 b. 9 c. 2

d. 3 e. 1 f. 5

5 a. ✗ b. ✗ c. ✓

d. ✓ e. ✓ f. ✗

6 a. The number of counters in each group = $\frac{1}{4}$ of 20 = 20 ÷ 4

= 5 counters.

b. The number of hours

= $\frac{1}{8}$ of 24 = 24 ÷ 8 = 3 hours.

7 a. half of a watermelon

b. half of 100 L.E.

8 a. What each friend will get

$= 18 \div 3 = 6$ sweets.

b. $\frac{1}{3}$

Accumulative Assessment

Till chapter 8

1 a. 2 b. 4 c. 4

d. 21 e. 28

2 a. ✓ b. ✗ c. ✗

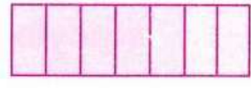
d. ✓ e. ✗

3 a. 2 b. > c. 1

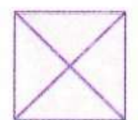
d. 6 e. 6×6

4

a.

b. 

c.

d. 

5 The side length $= 12 \div 4 = 3$ cm.

6 Length + width $= 30 \div 2 = 15$ cm.

Length $= 15 - 4 = 11$ cm.

7 a. What each friend will get

$= 15 \div 5 = 3$ apples.

b. $\frac{1}{5}$

8 What he gave away $= \frac{1}{3}$ of 18

$= 18 \div 3 = 6$ pounds.

Sheet 12

1 a. > b. > c. <

d. = e. < f. >

2 a. 0 $\frac{1}{7}$ $\frac{2}{7}$ $\frac{3}{7}$ $\frac{4}{7}$ $\frac{5}{7}$ $\frac{6}{7}$ 1

b. 0 $\frac{1}{9}$ $\frac{2}{9}$ $\frac{3}{9}$ $\frac{4}{9}$ $\frac{5}{9}$ $\frac{6}{9}$ $\frac{7}{9}$ $\frac{8}{9}$ 1

c. 0 $\frac{1}{10}$ $\frac{2}{10}$ $\frac{3}{10}$ $\frac{4}{10}$ $\frac{5}{10}$ $\frac{6}{10}$ $\frac{7}{10}$ $\frac{8}{10}$ $\frac{9}{10}$ 1

3 a. 0 $\frac{1}{5}$ $\frac{2}{5}$ $\frac{3}{5}$ $\frac{4}{5}$ 1

Mina will run for 5 days.

b. The number of counters in each group $= 30 \div 5$

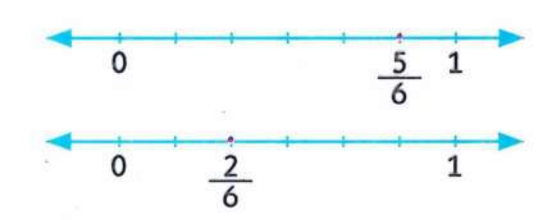
$= 6$ counters.

Sheet 13

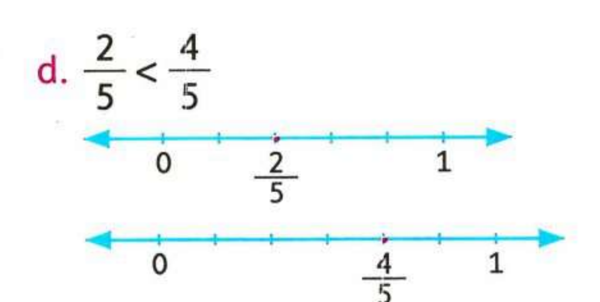
1 a. 4 b. 20 c. $\frac{3}{5}$

d. $\frac{5}{8}$ e. < f. 6

2 a. $\frac{5}{6} > \frac{2}{6}$

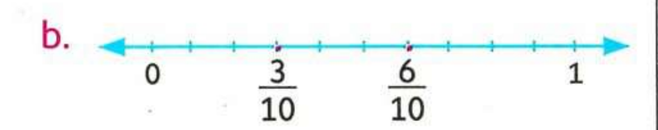


d. $\frac{2}{5} < \frac{4}{5}$



3 a.

b.



Sheet 14

1 a. $>$ b. $<$ c. $>$ d. $=$ e. $=$

2 a. $\frac{2}{3}$ b. $\frac{5}{18}$ c. $\frac{2}{4}$ d. 5

3 a. ✗ b. ✓ c. ✗ d. ✗

4 a. 0, $\frac{1}{12}$, $\frac{2}{12}$, $\frac{3}{12}$, $\frac{4}{12}$, $\frac{5}{12}$, $\frac{6}{12}$, $\frac{7}{12}$, $\frac{8}{12}$, $\frac{9}{12}$, $\frac{10}{12}$, $\frac{11}{12}$, 1

b. What her sister will take
$= 70 \div 10 = 7$ L.E.

Sheet 15

1 a. $\frac{2}{10}$ b. $\frac{7}{17}$ c. $\frac{13}{21}$ d. $>$

2 a. $\frac{2}{16}$ b. $\frac{5}{20}$ c. $\frac{10}{16}$ d. 15
e $\frac{5}{9}$ f. $\frac{12}{12}$ g. 9
h. 7 i. 3 j. $\frac{6}{9}$

3 a. $<$ b. $=$ c. $>$
d. $>$ e. $=$ f. $>$

Sheet 16

1 a. $\frac{7}{9}$ b. $\frac{3}{5}$ c. $>$
d. 8 e. 3

2 a. $\frac{5}{18}$ b. $\frac{1}{9}$ c. $\frac{11}{12}$
d. $\frac{3}{7}$ e. $\frac{3}{5}$ f. 4

3 a. The fraction of what Wael ate
$= \frac{1}{8} + \frac{3}{8} = \frac{4}{8}$

b. The fraction of what left with
Eman $= \frac{6}{6} - \frac{2}{6} = \frac{4}{6}$

c. Mathematics Arabic
$\frac{2}{5} < \frac{3}{5}$
So, she spent less time studying mathematics.

Assessment - Chapter 9

1 a. $\frac{3}{6}$ b. $\frac{1}{7}$ c. $<$
d. $\frac{2}{5}$ e. $<$

2 a. $\frac{3}{5}$ b. $\frac{5}{8}$ c. $\frac{3}{7}$
d. $\frac{1}{9}$ e. $\frac{7}{8}$ f. zero

3 a. $\frac{2}{7}$ b. $\frac{4}{9}$ c. $\frac{3}{10}$
d. $\frac{4}{5}$ e. $\frac{8}{11}$ f. $\frac{6}{8}$

4 The flour left $= \frac{5}{6} - \frac{1}{6} = \frac{4}{6}$ cup.

5 Number line: 0, $\frac{1}{8}$, $\frac{2}{8}$, $\frac{3}{8}$, $\frac{4}{8}$, ($\frac{5}{8}$), $\frac{6}{8}$, $\frac{7}{8}$, 1

6 a. $\frac{6}{7} - \frac{3}{7}$ b. $\frac{4}{12} + \frac{1}{12}$ c. $\frac{3}{12} + \frac{6}{12}$
d. $\frac{6}{7} - \frac{2}{7}$ e. $\frac{7}{12} + \frac{4}{12}$

7 What Hamza ate = $\frac{1}{5} + \frac{3}{5}$
= $\frac{4}{5}$ of his pizza.

Accumulative Assessment

Till chapter 9

1 a. 7 b. 10 c. 7
d. 9 e. $\frac{3}{5}$ f. 4

2 a. ✓ b. ✗ c. ✗
d. ✓ e. ✓

3 a. $\frac{2}{7}$ b. $\frac{4}{8}$ c. $3 \times (10 + 7)$
d. 18 e. < f. >

4 a. $\frac{7}{9} - \frac{4}{9}$ b. $1 - \frac{3}{9}$
c. $\frac{7}{9} - \frac{5}{9}$ d. $\frac{7}{9} - \frac{2}{9}$

5 The used cloth = 20 − 2 = 18 meters.
The number of meters each dress took = 18 ÷ 3 = 6 meters.

6 The perimeter = 2 × (7 + 4)
= 2 × 11 = 22 cm.

7 The water left = $\frac{7}{8} - \frac{3}{8}$
= $\frac{4}{8}$ of the water bottle.

8 The side length = 12 ÷ 4 = 3 cm.

9 • 3 × 5 = 15 • 15 ÷ 3 = 5
• 5 × 3 = 15 • 15 ÷ 5 = 3

Sheet 17

1 a. $\frac{5}{10}$ b. $\frac{2}{8}$ c. $\frac{9}{12}$
d. 7 e. 8 f. 8

2 a. 4 b. 5 c. 3
d. $\frac{5}{18}$ e. 4 , 18 , 8 f. 49

3 a. The fraction of what they ate
= $\frac{1}{6} + \frac{2}{6} = \frac{3}{6}$
b. Number line: 0, $\frac{1}{12}$, $\frac{2}{12}$, $\frac{3}{12}$, $\frac{4}{12}$, $\frac{5}{12}$, [$\frac{6}{12}$], $\frac{7}{12}$, $\frac{8}{12}$, $\frac{9}{12}$, $\frac{10}{12}$, $\frac{11}{12}$, 1

Sheet 18

1 a. $\frac{3}{15}$ b. $\frac{9}{18}$ c. 36
d. $\frac{3}{19}$ e. 10 + 2 f. 9

2 a. 10 b. 28 c. 54
d. $\frac{3}{6}$ e. 8 f. 5

3 a. 21 , 8 , 35 b. 2 , 12 , 24

4 a. Perimeter = 3 × 4 = 12 cm.
b. Perimeter = (5 + 2) × 2
= 7 × 2 = 14 cm.
c. Perimeter = (7 + 1) × 2 = 8 × 2
= 16 cm.

5 The left flour = $\frac{4}{5} - \frac{3}{5} = \frac{1}{5}$ cup.

Sheet 19

1 a. $\frac{5}{30}$ b. 5 c. $\frac{1}{2}$
d. 35 e. $\frac{3}{7}$ f. $\frac{3}{5}$

2 a. 0 b. 15 c. $\frac{7}{9}$
d. 7 e. 3 f. 8
g. 3 cm h. $\frac{3}{5}$

3 a. 15 , 12 , 35
b. 0, $\frac{1}{10}$, $\frac{2}{10}$, $\frac{3}{10}$, $\frac{4}{10}$, $\frac{5}{10}$, $\boxed{\frac{6}{10}}$, $\frac{7}{10}$, $\frac{8}{10}$, $\frac{9}{10}$, 1

Sheet 20

1 a. $\frac{15}{40}$ b. 63 c. 4
d. $\frac{7}{14}$ e. 3 f. 8

2 a. $\frac{8}{9}$ b. 6 c. 8
d. 20 e. 4 f. 5

3 The fraction of what Marwan ate = $\frac{8}{12}$

Sheet 21

1 a. [8][8][8][8] , 8
b. (4)(4)(4)(4)(4)(4) , 4
c. [9][9][9] , 9
d. [8][8][8][8][8] , 8
e. [9][9][9][9] , 9

2 a. $\frac{5}{10}$ b. 5 c. $\frac{12}{21}$
d. $\frac{1}{6}$ e. $\frac{3}{5}$ f. $\frac{1}{4}$

3 a. $4 \times 3 \times 1$
$= 4 \times (3 \times 1)$
$= 4 \times 3 = 12$

b. $2 \times 3 \times 6$
$= (2 \times 3) \times 6$
$= 6 \times 6 = 36$

4 [7][7][7]
Each child will take
$= 21 \div 3 = 7$ L.E.

Sheet 22

1 a. 3 b. 7 c. $\frac{9}{30}$
d. 7 e. $\frac{4}{6}$ f. 4

2 a. 9 b. 10 c. 48 d. 9

3 a. $3 \times 8 = 24$
$8 \times 3 = 24$
$24 \div 3 = 8$
$24 \div 8 = 3$

b. $6 \times 7 = 42$
$7 \times 6 = 42$
$42 \div 6 = 7$
$42 \div 7 = 6$

Assessment - Chapter 10

1 a. 15 , 15 b. 8 , 6 c. 21 , 10
d. 2 , 9 e. $\frac{6}{8}$

2 a. $\frac{4}{14}$ b. equivalent
c. $\frac{2}{4}$ d. 3

3 18

$18 \div 3 = 6$ The quotient is 6

4 $2 \times 4 = 8$

$4 \times 2 = 8$

$8 \div 2 = 4$

$8 \div 4 = 2$

5 a. 16 , 20 , 24

The numerator increases by 1 and the denominator increases by 4

b. 8 , 10 , 12

The numerator increases by 2 and the denominator increases by 3

6 a. Not equivalent

b. Equivalent

7 a. $\frac{2}{4} = \frac{3}{6}$ b. $\frac{8}{10} = \frac{12}{15}$

c. $\frac{4}{6} = \frac{6}{9}$ d. $\frac{4}{16} = \frac{5}{20}$

Answers may vary

Accumulative Assessment

Till chapter 10

1 a. 24 b. 5

c. 6 , 15 , 20 d. 1

e. $\frac{6}{10}$

2 a. ✓ b. ✗ c. ✗ d. ✓ e. ✗

3 a. = b. 16 c. 4

d. $\frac{1}{3}$ e. $\frac{3}{8}$

4 a. $\frac{4}{14}$ b. $\frac{5}{14}$ c. $\frac{1}{14}$

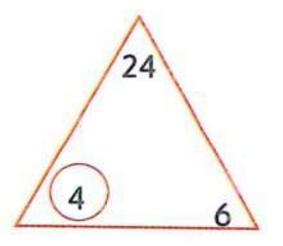
d. $\frac{3}{7}$

5 $4 \times 6 = 24$

$6 \times 4 = 24$

$24 \div 4 = 6$

$24 \div 6 = 4$



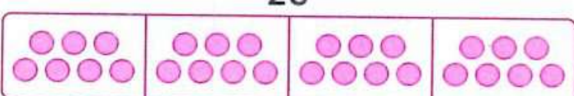
6 What he has left $= \frac{4}{7} - \frac{2}{7}$

$= \frac{2}{7}$ of the candy bar.

7 The side length of the square

$= 36 \div 4 = 9$ cm.

8 28



$28 \div 4 = 7$ 7 stamps

Sheet 23

1 a. 24 b. 14 c. 60

d. $\frac{8}{10}$ e. = f. $\frac{3}{7}$

2 a. 0 b. 30 c. 12

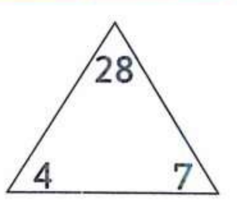
d. 99 e. $\frac{2}{14}$ f. 7

3 a. 35 b. 63

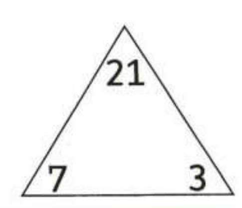
Sheet 24

1 a. 8 b. 3 c. 48 d. 6

2 a. $28 \div 4 = 7$



b. $7 \times 3 = 21$



3 a. The price of each pen
$= 64 \div 8 = 8$ L.E.

b. The number of toys
$= 10 \times 7 = 70$ toys.

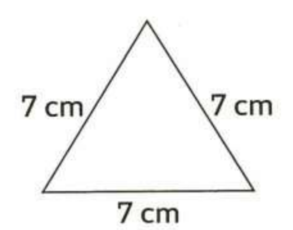
4 Write by yourself.

Sheet 25

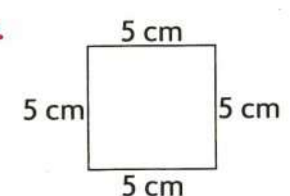
1 a. 16 b. 64 c. 4 d. >

2 a. 46 b. 15 c. 4 d. $\frac{5}{9}$

3 a.



b.



Sheet 26

1 a. 8 b. 22 c. 55 d. 18

2 a. 34 b. 49 c. 80 d. $\frac{4}{7}$

3 a.

6 cm

3 cm

b. The water left $= \frac{7}{8} - \frac{5}{8}$
$= \frac{2}{8}$ of the bottle.

Assessment - Chapter 11

1 a. 1 b. 8 c. 18
d. 7 e. 22 f. 100

2 a. 18 b. 40 c. 48 d. 25
e. 49 f. 4 g. 12 h. 99
i. 56 j. 12 k. 0 l. 55
m. 48 n. 81 o. 18

3 a. < b. = c. >
d. < e. = f. <

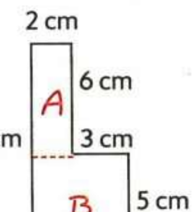
4 a. What Mahmoud saves $= 10 \times 7$
$= 70$ pounds.

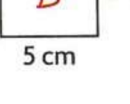
b. The number of boxes $= 30 \div 6$
$= 5$ boxes.

c. What each child got $= 27 \div 3$
$= 9$ marbles.

d. The number of all balls $= 5 \times 8$
$= 40$ balls.

5 The perimeter
$= 2 + 6 + 3 + 5$
$+ 5 + 11 = 32$ cm.





Area of rectangle A
$= 2 \times 6 = 12$ square cm.

Area of square B
$= 5 \times 5 = 25$ square cm.

Area of the whole figure
$= 12 + 25 = 37$ square cm.

6 Width = $15 \div 5 = 3$ cm.

Perimeter = $2 \times (5 + 3) = 16$ cm.

Accumulative Assessment

Till chapter 11

1 a. 16 b. 21 c. 10

d. 3 e. $\frac{4}{5}$ f. 4 , 9

2 a. ✗ b. ✓ c. ✗ d. ✗ e. ✓

3 a. $\frac{5}{8}$ b. > c. 2×30

d. 3 e. > f. 16

4 a. 4 b. 50 c. 16

d. 9 e. 15 f. 27

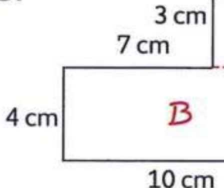
5 The number of marbles each child got = $24 \div 3 = 8$ marbles.

6 The perimeter

= 3 + 7 + 10

+ 4 + 7 + 3

= 34 cm.



Area of square A

= $3 \times 3 = 9$ square cm.

Area of rectangle B

= $10 \times 4 = 40$ square cm.

Area of the whole figure

= $9 + 40 = 49$ square cm.

7 Length = $40 \div 8 = 5$ cm.

8 What she needs = $\frac{4}{5} - \frac{1}{5}$

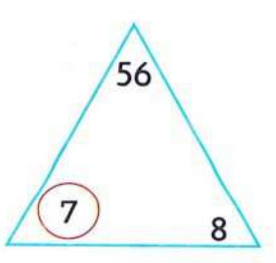
$= \frac{3}{5}$ cup.

9 $7 \times 8 = 56$

$8 \times 7 = 56$

$56 \div 7 = 8$

$56 \div 8 = 7$



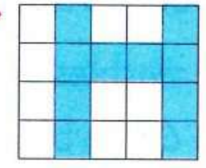
Sheet 27

1 a. $\frac{1}{2}$ b. $\frac{1}{2}$ c. 10 d. 27

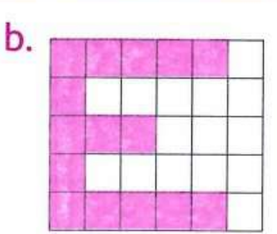
2 a. $\frac{1}{2}$ b. 81 c. 16

d. 42 e. 28 f. 10

3 a.



b.



(Answer may vary)

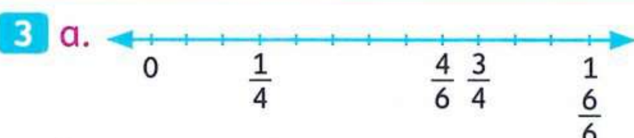
Sheet 28

1 a. $\frac{1}{2}$ b. 12 c. 12 d. < e. $\frac{7}{9}$

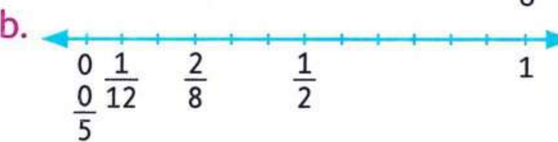
2 a. 8 b. 10 c. 7

d. 9 e. 0 f. 20

3 a.



b.



Sheet 29

1 a. 4,000 b. 764,210
c. > d. 16

2 a. 200,410
b. 500,000 + 60,000 + 1,000 + 300 + 40 + 8
c. 123,568
d. Hundred Thousands.

3 a. The order is : 75,600 , 675,000 , 705,006 , 750,600
b. The number of marbles in each bag = 42 ÷ 7 = 6 marbles.

Sheet 30

1 a. 2 hours and 5 minutes.
b. 5 : 40 P.M.
c. > d. 8 : 15 A.M.

2 a. 4
b. 3 hours and 10 minutes.
c. 5
d. 104,680
e. 2 : 15 P.M.

3 10 : 00 A.M.

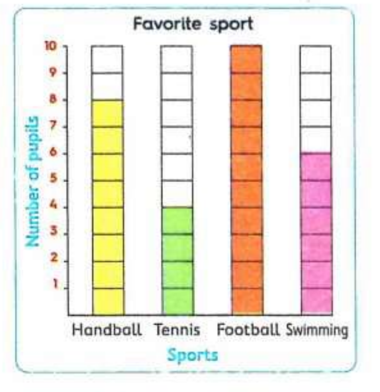
Sheet 31

1 a. < b. 6
c. 3 d. 11 : 25 A.M.
e. =

2

Favorite sport

Sport	Tally	Number
Handball	𝍸 |||	8
Tennis	||||	4
Football	𝍸 𝍸	10
Swimming	𝍸		6



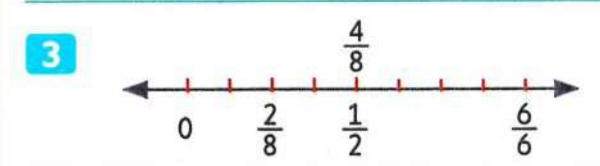
a. Football b. Tennis
c. 6 d. 28

Assessment - Chapter 12

1 a. > b. 20 c. 9,730
d. 18 e. 4 f. 99

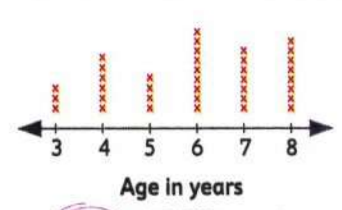
2 4 hours and 15 minutes.

3



4

Title: Ages of children in a ballet class



Key: Each X = 1 child

Ages of children in a ballet class

Age	Tally	Number
3					3
4	𝍸		6
5						4
6	𝍸 ||||	9
7	𝍸 ||	7
8	𝍸 |||	8

5 a. $8 \div 2 = 4$

Half the area $= 10 \times 4$

$= 40$ square cm.

b. $2 \div 2 = 1$

Half the area $= 1 \times 6$

$= 6$ square cm.

---

6 a. 507,570

b. 900,000 , 20,000 , 5,000 , 40 , 7

c. 343,512

d. Ten Thousands.

e. 5,000

f. three hundred seventy thousand, one hundred twenty-eight.

---

7 a. The order is : 45,281 , 99,999 , 501,421 , 720,241

b. The order is : 201,210 , 102,210 , 37,040 , 792

---

8 7 hours and 45 minutes.

Accumulative Assessment

Till chapter 12

1 a. $\frac{1}{7}$ b. 36 c. 71,039

d. 20,348 e. 4

---

2 a. ✗ b. ✗ c. ✓ d. ✓ e. ✗

---

3 a. 7 b. $\frac{7}{15}$ c. > d. 15 e. >

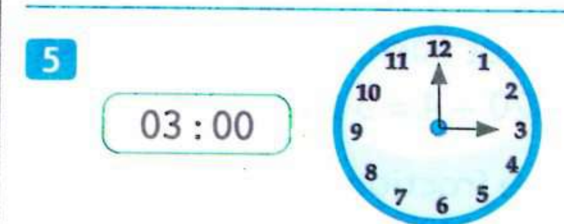
---

4 a. The perimeter of rectangle of length 13 cm and width 7 cm

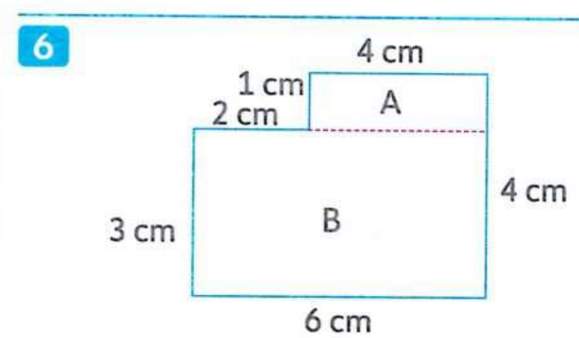
b. 36 square cm

c. 17 square units

5



6



The perimeter $= 4 + 4 + 6 + 3 + 2 + 1 = 20$ cm.

Area of rectangle A $= 4 \times 1$

$= 4$ square cm.

Area of rectangle B $= 6 \times 3$

$= 18$ square cm.

Area of whole figure $= 4 + 18$

$= 22$ square cm.

---

7 Price of pizza slices $= 4 \times 8$

$= 32$ pounds.

The rest $= 40 - 32 = 8$ pounds.

Answers of Monthly Tests

March test 1

1 a. 44 b. < c. 5

2 1. The rest = 90 – 70 = 20 L.E.

What each friend would take = 20 ÷ 4 = 5 L.E.

2. The fraction is : $\frac{1}{4}$

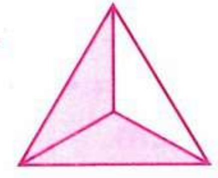
3. Length + width = 22 ÷ 2 = 11 cm.

Length = 11 – 5 = 6 cm.

4. What he could bake = 10 × 6 = 60 cakes.

5. What Bassem ate = 9 ÷ 3 = 3 candies.

6. Number line: 0, $\frac{1}{10}$, $\frac{2}{10}$, $\frac{3}{10}$, $\frac{4}{10}$, $\frac{5}{10}$, $\frac{6}{10}$, $\frac{7}{10}$, $\frac{8}{10}$, $\frac{9}{10}$, 1 (point at $\frac{7}{10}$)

7. 

March test 2

1 a. 10 b. 4 c. 5

2 1. The perimeter = 8 × 4 = 32 cm.

2. What he needs = 24 ÷ 4 = 6 bags.

3. The fraction is : $\frac{1}{5}$

4. The fraction is : $\frac{1}{4}$

5. Maged ran farther.

6. The number of counters in each group = 40 ÷ 5 = 8 counters.

7. The price of tea bages = 5 × 11 = 55 L.E.

What Aya paid = 35 + 55 = 90 L.E.

March test 3

1 a. 8 b. 8 c. =

2 1. 2 × 5 × 8 = (2 × 5) × 8 = 10 × 8 = 80

2. The number of marbles = 8 × 6 = 48 marbles.

3. The side length = 36 ÷ 4 = 9 cm.

4. 10 tenths.

5.

$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$

6. 6 ÷ 6 = 1

Each friend will receive $\frac{1}{6}$ of the 6 – pack.

7. The price of pens = 5 × 8 = 40 L.E.

What he paid = 55 + 40 = 95 L.E.

April test 1

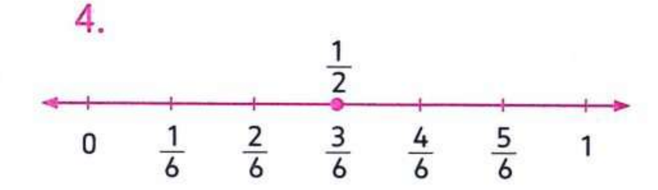
1 a. $\frac{4}{9}$ b. 15 c. $\frac{6}{7}$

2 1. The perimeter $= 2 \times (2 + 6)$
$= 2 \times 8 = 16$ cm.

2. What each student will take
$= 24 \div 8 = 3$ candies.

3. Fatma spent more time studying mathematics.

4.



5. $3 \times 7 = 21$ $7 \times 3 = 21$
$21 \div 3 = 7$ $21 \div 7 = 3$

6. The area $= 9 \times 9 = 81$ square cm.

7. What he ate $= \frac{1}{8} + \frac{3}{8}$
$= \frac{4}{8}$ of the pie.

April test 2

1 a. > b. $\frac{2}{17}$ c. 21

2 1. What they both ran $= \frac{1}{5} + \frac{3}{5}$
$= \frac{4}{5}$ of a kilometer.

2. (square with sides: 3 cm, 3 cm, 3 cm, 3 cm)

3. $\frac{1}{2} = \frac{4}{8}$

4. The water left $= \frac{7}{8} - \frac{4}{8}$
$= \frac{3}{8}$ of the bottle.

5. The number of toys in each box $= 28 \div 4 = 7$ toys.

6. • 33 • 4

7. The perimeter $= 4 + 8 + 11 + 3 + 7 + 5 = 38$ cm.

April test 3

1 a. > b. 30 c. 0

2 1. What is left $= \frac{10}{10} - \frac{3}{10}$
$= \frac{7}{10}$ of the toys.

2. • $\frac{8}{9}$ • $\frac{7}{16}$

3. (number line: 0, $\frac{1}{9}$, $\frac{2}{9}$, $\frac{3}{9}$, $\frac{4}{9}$, $\frac{5}{9}$, $\frac{6}{9}$, $\frac{7}{9}$, $\frac{8}{9}$, 1; $\frac{1}{3}$ marked at $\frac{3}{9}$)

4. 8 , 12

5. What each child will take
$= 18 \div 2 = 9$ L.E.

6. The length $= 24 \div 4 = 6$ cm

The perimeter $= 2 \times (6 + 4)$
$= 2 \times 10 = 20$ cm.

7. The number of toys $= 10 \times 6$
$= 60$ toys.

Answers of General Revision

Chapter 7

1 a. $(2 \times 3) \times 5 = 6 \times 5 = 30$

b. $(4 \times 2) \times 1 = 8 \times 1 = 8$

c. $6 \times (2 \times 4) = 6 \times 8 = 48$

d. $(5 \times 1) \times 7 = 5 \times 7 = 35$

e. $3 \times (2 \times 2) = 3 \times 4 = 12$

f. $4 \times (5 \times 2) = 4 \times 10 = 40$

2 a. $5 \times (10 + 2) = (5 \times 10) + (5 \times 2)$
$= 50 + 10 = 60$

b. $4 \times (10 + 3) = (4 \times 10) + (4 \times 3)$
$= 40 + 12 = 52$

c. $2 \times (10 + 6) = (2 \times 10) + (2 \times 6)$
$= 20 + 12 = 32$

d. $3 \times (10 + 8) = (3 \times 10) + (3 \times 8)$
$= 30 + 24 = 54$

e. $7 \times (10 + 1) = (7 \times 10) + (7 \times 1)$
$= 70 + 7 = 77$

f. $6 \times (10 + 10) = (6 \times 10) + (6 \times 10)$
$= 60 + 60 = 120$

3

8 fives: 4 fives, 4 fives
7 tens: 5 tens, 2 tens
3 fours: 1 four, 2 fours

$3 \times 4 = 12$ $8 \times 5 = 40$ $7 \times 10 = 70$

$(5 \times 10) + (2 \times 10) = 70$ $(1 \times 4) + (2 \times 4) = 12$ $(4 \times 5) + (4 \times 5) = 40$

4

a. 9	b. 4	c. 54	d. 3
e. 3	f. 14	g. 4	h. 7
i. 6	j. 25	k. 54	l. 15
m. 2	n. 1	o. 0	p. 5

5

	Perimeter	Area
a.	$4 \times 2 = 8$ cm	$2 \times 2 = 4$ square cm
b.	$4 \times 7 = 28$ m	$7 \times 7 = 49$ square m
c.	$2 \times (4 + 3) = 2 \times 7 = 14$ cm	$4 \times 3 = 12$ square cm
d.	$2 \times (5 + 2) = 2 \times 7 = 14$ m	$5 \times 2 = 10$ square m

6 $4 \times 9 = 36$ So, $36 \div 4 = 9$
The side length = 9 cm.

7 Length + width $= 18 \div 2 = 9$
The width $= 9 - 5 = 4$ cm.

8

a. ✗	b. ✗	c. ✓
d. ✓	e. ✗	f. ✗

9

a. 25	b. $7 \times (10 + 6)$	c. 3
d. 5	e. 6	f. 5
g. 2		

10

a. 28	b. 42
c. 16	d. 1

11 The total number of boxes
$= 21 \div 3 = 7$ boxes.
The number of needed boxes
$= 7 - 4 = 3$ boxes.

12 Mazen earned in 4 weeks
$= 4 \times 15 = 60$ L.E.
He earned in 5 weeks
$= 60 + 10 = 70$ L.E.

13 The number of cupcakes from first bake in each container
$= 28 \div 4 = 7$ cupcakes.
The total number of cupcakes in each container
$= 7 + 3 = 10$ cupcakes.

14 The price of the pizza
$= 3 \times 9 = 27$ pounds.
The rest $= 30 - 27 = 3$ pounds.

Chapter 8

1 a. $\frac{1}{4}$ b. $\frac{1}{8}$ c. $\frac{1}{3}$
d. $\frac{1}{3}$ e. $\frac{1}{2}$ f. $\frac{1}{5}$

2 a. > b. < c. >
d. < e. < f. <
g. > h. > i. <

3 a. Top number of a fraction
b. Bottom number of a fraction
c. Fraction with a numerator of 1
d. A comparison of equal parts to a whole

4 a. Thirds b. Halves c. Sixths
d. Thirds e. Fifths f. Fourths
g. Twelfths h. Eighths

5 a. $\frac{1}{6}$ b. $\frac{1}{4}$ c. $\frac{1}{3}$

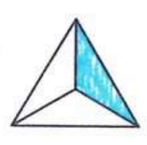
6 a. half of a watermelon
b. half of a day
c. half an hour

7 a. $\frac{1}{4}$ b. 4

8 2

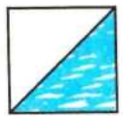
9 a. $24 \div 3 = 8$ b. $18 \div 6 = 3$
c. $12 \div 4 = 3$ b. $9 \div 9 = 1$
e. $48 \div 8 = 6$ f. $10 \div 5 = 2$
g. $20 \div 5 = 4$ h. $32 \div 4 = 8$
i. $21 \div 7 = 3$ j. $27 \div 9 = 3$
k. $18 \div 3 = 6$ l. $28 \div 7 = 4$
m. $45 \div 5 = 9$ n. $20 \div 2 = 10$
o. $6 \div 6 = 1$ p. $16 \div 8 = 2$

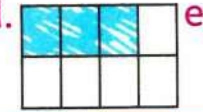
10 a. 7 b. = c. 10 d. $\frac{1}{3}$
e. $\frac{1}{8}$ f. 6 g. fifths h. 20

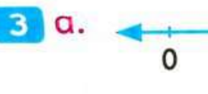
11 a. b. c.
d. e. f.
g. h. 

Chapter 9

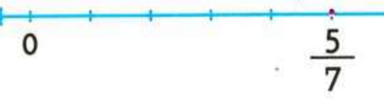
1 a. $\frac{2}{6}$ b. $\frac{3}{5}$ c. $\frac{3}{4}$ d. $\frac{4}{12}$
e. $\frac{2}{4}$ f. $\frac{2}{6}$ g. $\frac{3}{8}$ h. $\frac{1}{3}$
i. $\frac{5}{8}$ j. $\frac{4}{5}$ k. $\frac{1}{4}$ l. $\frac{1}{2}$
m. $\frac{7}{10}$ n. $\frac{7}{8}$ o. $\frac{5}{9}$ p. $\frac{6}{12}$

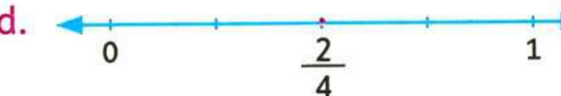
2 a. b. c. 

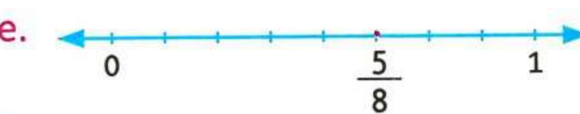
d.  e. f.

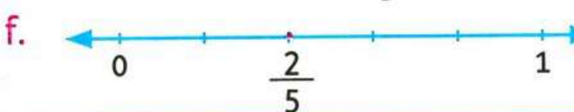
3 a. 
0 $\frac{2}{3}$ 1

b.
0 $\frac{3}{4}$ 1

c. 
0 $\frac{5}{7}$ 1

d. 
0 $\frac{2}{4}$ 1

e. 
0 $\frac{5}{8}$ 1

f. 
0 $\frac{2}{5}$ 1

4 a. > b. < c. > d. <
e. < f. < g. < h. >
i. > j. > k. < l. >

5 a. $\frac{2}{3}$ b. $\frac{2}{5}$ c. $\frac{5}{7}$ d. $\frac{5}{8}$
e. $\frac{7}{10}$ f. $\frac{3}{10}$ g. $\frac{4}{6}$ h. $\frac{6}{9}$
i. $\frac{6}{10}$ j. $\frac{5}{5}$ k. $\frac{2}{9}$ l. $\frac{2}{12}$

6 a. 0 $\frac{1}{7}$ $\boxed{\frac{2}{7}}$ $\boxed{\frac{3}{7}}$ $\frac{4}{7}$ $\frac{5}{7}$ $\boxed{\frac{6}{7}}$ 1

b. 0 $\boxed{\frac{1}{2}}$ 1

c. 0 $\frac{1}{8}$ $\frac{2}{8}$ $\boxed{\frac{3}{8}}$ $\boxed{\frac{4}{8}}$ $\frac{5}{8}$ $\boxed{\frac{6}{8}}$ $\boxed{\frac{7}{8}}$ 1

7 a. ✗ b. ✓ c. ✗
d. ✓ e. ✓ f. ✗

8 a. $\frac{5}{7} - \frac{3}{7}$ b. $\frac{6}{7} - \frac{1}{7}$
c. $\frac{6}{7} - \frac{2}{7}$ d. $\frac{8}{8}$

9 a. $\frac{2}{12}$ b. $\frac{2}{8}$ c. $\frac{3}{11}$ d. $\frac{8}{10}$
e. $\frac{3}{11}$ f. $\frac{4}{5}$ g. < h. >
i. > j. > k. > l. <
m. = n. < o. > p. <
q. < r. >

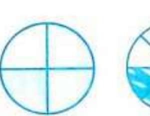
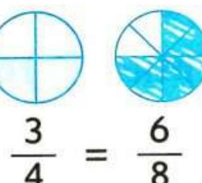
10 The water left $= \frac{5}{7} - \frac{2}{7}$
$= \frac{3}{7}$ of bottle.

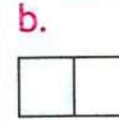
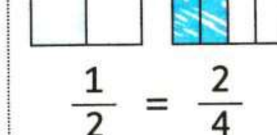
11 The milk she needs $= \frac{3}{4} - \frac{1}{4} = \frac{2}{4}$ cup.

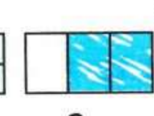
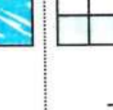
12 What they both ate $= \frac{2}{7} + \frac{3}{7}$
$= \frac{5}{7}$ of chocolate.

13 $\frac{2}{3} > \frac{2}{4} > \frac{2}{5}$
The first kind takes more flour.

Chapter 10

1 a.  
$\frac{3}{4} = \frac{6}{8}$

b.  
$\frac{1}{2} = \frac{2}{4}$

c.  
$\frac{4}{6} = \frac{2}{3}$

d. $\frac{4}{8} = \frac{1}{2}$

2 a. $\frac{3}{4} = \boxed{\frac{6}{8}}$ (number lines: 0, $\frac{3}{4}$, 1; 0, $\frac{6}{8}$, 1)

b. $\frac{2}{3} = \boxed{\frac{4}{6}}$ (number lines: 0, $\frac{2}{3}$, 1; 0, $\frac{4}{6}$, 1)

c. $\frac{5}{6} = \boxed{\frac{10}{12}}$ (number lines: 0, $\frac{5}{6}$, 1; 0, $\frac{10}{12}$, 1)

d. $\frac{2}{5} = \boxed{\frac{4}{10}}$ (number lines: 0, $\frac{2}{5}$, 1; 0, $\frac{4}{10}$, 1)

3 a. $2 \times 4 = 8$
$4 \times 2 = 8$
$8 \div 2 = 4$
$8 \div 4 = 2$

b. $4 \times 6 = 24$
$6 \times 4 = 24$
$24 \div 4 = 6$
$24 \div 6 = 4$

c. $3 \times 5 = 15$
$5 \times 3 = 15$
$15 \div 3 = 5$
$15 \div 5 = 3$

4 a. $\frac{4}{6}$ b. 15 c. 28 d. $\frac{1}{2}$
e. 25 f. $\frac{6}{27}$ g. $\frac{20}{24}$ h. $\frac{12}{32}$
i. $\frac{1}{3}$ j. $\frac{4}{5}$

5 a. 16 , 20 , 24
The numerator increases by 1 and the denominator increases by 4

b. 8 , 10 , 12
The numerator increases by 2 and the denominator increases by 3

c. 3 , 8 , 10 , 6
The numerator increases by 1 and the denominator increases by 2

6 a. $\frac{2}{14} = \frac{3}{21}$ b. $\frac{8}{18} = \frac{12}{27}$ (Answers may vary)
c. $\frac{6}{18} = \frac{10}{30}$ d. $\frac{3}{9} = \frac{7}{21}$
e. $\frac{6}{8} = \frac{30}{40}$ f. $\frac{4}{10} = \frac{14}{35}$

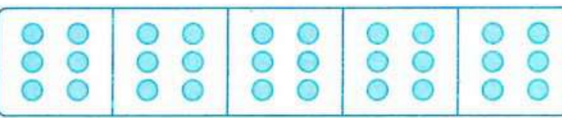
7 a. Not equivalent
b. Not equivalent
c. Equivalent
d. Equivalent
e. Equivalent
f. Equivalent

8 a. $\frac{6}{10}$ b. $\frac{5}{20}$ c. $\frac{8}{10}$ d. $\frac{6}{21}$

9 a. ✓ b. ✗ c. ✓ d. ✓
e. ✗ f. ✓ g. ✗ h. ✓
i. ✓

10 $\frac{2}{12}$ (number lines: 0, $\frac{1}{6}$, 1; 0, $\frac{2}{12}$, 1)

11 30



6 toys $30 \div 5 = 6$

12 24

8 L.E. $24 \div 3 = 8$

13 a. $6 \times 7 = 42$

$7 \times 6 = 42$

$42 \div 6 = 7$

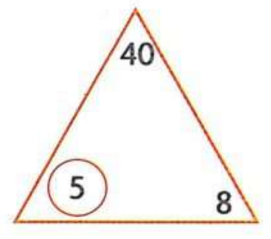
$42 \div 7 = 6$

b. $5 \times 8 = 40$

$8 \times 5 = 40$

$40 \div 5 = 8$

$40 \div 8 = 5$

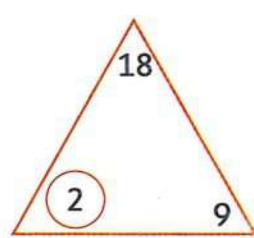


c. $2 \times 9 = 18$

$9 \times 2 = 18$

$18 \div 2 = 9$

$18 \div 9 = 2$



Chapter 11

1 a. 16 b. 70 c. 24 d. 42
e. 63 f. 24 g. 32 h. 30
i. 48 j. 5 k. 0 l. 60
m. 64 n. 35 o. 72 p. 77
q. 72 r. 33 s. 84 t. 36
u. 40

2 a. 2 b. 5 c. 3 d. 30
e. 6 f. 6 g. 7 h. 3
i. 6 j. 6 k. 0 l. 4
m. 35 n. 4 o. 3 p. 21
q. 3 r. 4

3 a. 4×10 b. 2×10
c. 6×10 d. 4×12
e. 6×6

4 a. > b. = c. < d. <
e. < f. > g. > h. <
i. = j. >

5 a. What each friend will get
$= 18 \div 6 = 3$ pens.

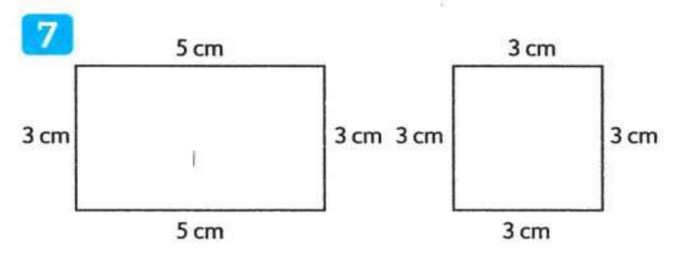
b. What he will donate
$= 12 \times 8 = 96$ pounds.

c. The number of toys
$= 5 \times 7 = 35$ toys.

d. The number of apples in each plate $= 36 \div 9 = 4$ apples.

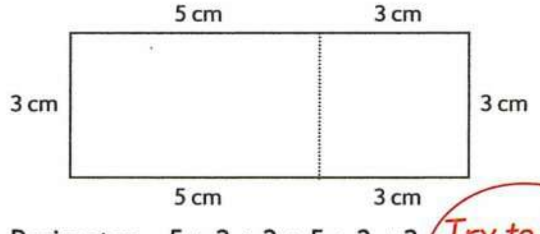
6 Write by yourself.

7



Perimeter $= 5 + 3 + 5 + 3 = 16$ cm
Area $= 5 \times 3 = 15$ square cm

Perimeter $= 3 + 3 + 3 + 3 = 12$ cm
Area $= 3 \times 3 = 9$ square cm



Perimeter $= 5 + 3 + 3 + 5 + 3 + 3 = 22$ cm
Area $= 9 + 15 = 24$ square cm

Try to lay the shapes side by side in another way

8 a.

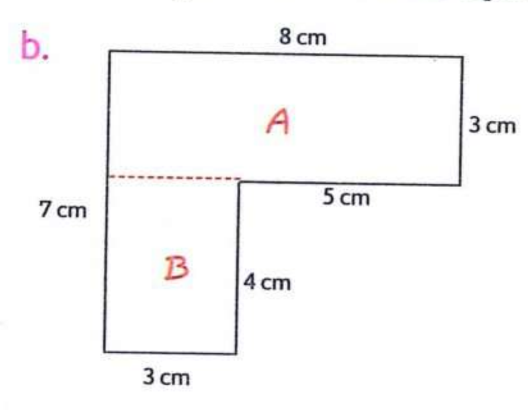
Perimeter = 7 + 10 + 12 + 6 + 5 + 4 = 44 cm.

Area of rectangle A = 7 × 4 = 28 square cm.

Area of rectangle B = 6 × 12 = 72 square cm.

Area of whole figure = 28 + 72 = 100 square cm.

b.



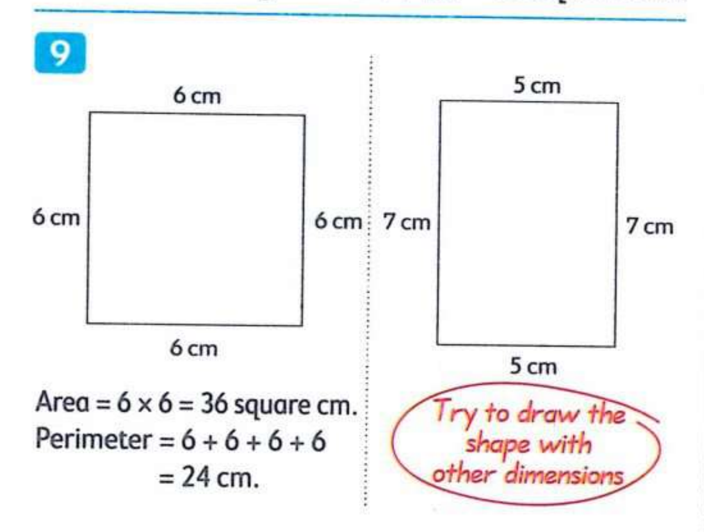
Perimeter = 8 + 3 + 5 + 4 + 3 + 7 = 30 cm.

Area of rectangle A = 3 × 8 = 24 square cm.

Area of rectangle B = 4 × 3 = 12 square cm.

Area of whole figure = 24 + 12 = 36 square cm.

9



Area = 6 × 6 = 36 square cm.

Perimeter = 6 + 6 + 6 + 6
= 24 cm.

10 a. Width = 32 ÷ 8 = 4 cm.

Perimeter = 2 × (8 + 4)
= 24 cm.

b. Width = 72 ÷ 9 = 8 cm.

Perimeter = 2 × (9 + 8)
= 34 cm.

Chapter 12

1 a. ① 8 ② 4 ③ 4 ④ $\frac{1}{2}$

b. ① 12 ② 6 ③ 6 ④ $\frac{1}{2}$

2 a. 8 ÷ 2 = 4

Half the area = 10 × 4
= 40 square cm.

b. 8 ÷ 2 = 4

Half the area = 4 × 6
= 24 square cm.

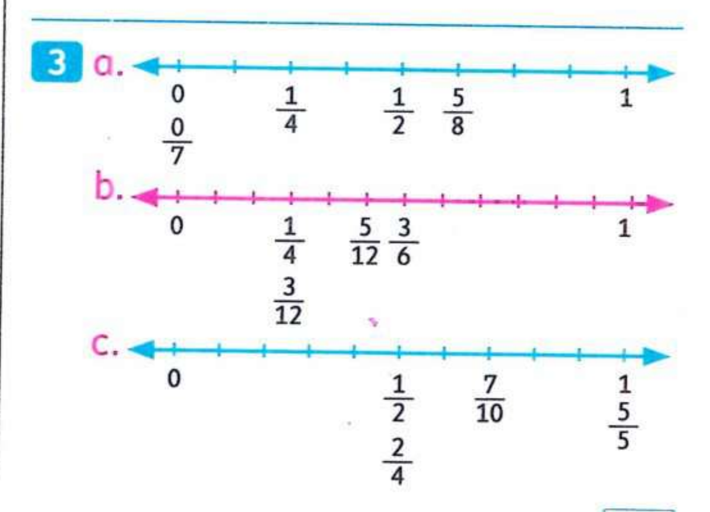
c. 6 ÷ 2 = 3

Half the area = 3 × 4
= 12 square cm.

d. 2 ÷ 2 = 1

Half the area = 5 × 1
= 5 square cm.

3



4 a. 220,507

b. 700,000 , 8,000 , 200 , 40 , 1

c. 549,530

d. Hundred Thousands.

e. 2,000

f. eight hundred thirty thousand , six.

g. 9,731

h. 10,378

---

5 a. The order is : 10,421 , 399,999 , 421,720 , 702,412

b. The order is : 374,298 , 347,982 , 98,374 , 987

---

6 a. 11 : 10 A.M. b. 40 minutes

c. 9 : 25 P.M. d. 12 : 55 P.M.

---

7 a. > b. < c. = d. <

e. =

---

8 $8 \div 2 = 4$

Half the area of the wall

$= 4 \times 4 = 16$ square meters.

---

9 2 hours and 50 minutes.

---

10 a. Area of a rectangle

$= 5 \times 4 = 20$ square cm.

Area of colored part $= 20 \div 2$

$= 10$ square cm.

b. Area of her paper

$= 5 \times 3 = 15$ square units.

So, she can't wrap any present

c. Area of her paper

$= 8 \times 6 = 48$ square units.

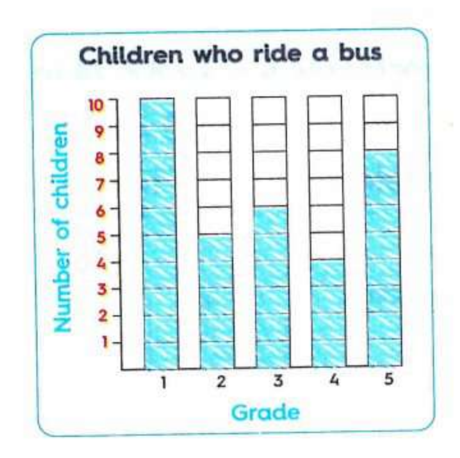
So, she can wrap only one present.

d. $\frac{3}{5} > \frac{3}{8}$ Fatma ate more pizza.

11

Riding a bus to school

Grade	Number of children	Number
1	𝍸 𝍸	10
2	𝍸	5
3	𝍸 |	6
4	||||	4
5	𝍸 |||	8



a. Grade 1

b. 13 children

c. 15

Answers of Final Assessments

Model 1

1
1. 120
2. 3 unequal
3. $\frac{4}{8}$
4. >
5. 8
6. 91
7. 72

2
1. $\frac{6}{9}$
2. $\frac{8}{16} = \frac{1}{2}$
3. 14
4. 5
5. $\frac{1}{5}$
6. 2
7. 0
8. 4

3
1. 200,000
2. 1
3. 6
4. $\frac{3}{8}$
5. =
6. 5
7. (figure)

4
1. Number line: 0, $\frac{1}{10}$, $\frac{2}{10}$, $\frac{3}{10}$, $\frac{4}{10}$, $\frac{5}{10}$, $\frac{6}{10}$, $\frac{7}{10}$, $\frac{8}{10}$, $\frac{9}{10}$, 1
2. The rest = 136 – 100 = 36 L.E.
   What each friend got
   = 36 ÷ 4 = 9 L.E.
3. The elapsed time = 1 hour and 10 minutes.
4. a. 35,640 b. 704,215

Model 2

1
1. $\frac{3}{8}$
2. $\frac{1}{7}$
3. 6
4. 42
5. >
6. 9
7. 144

2
1. 10
2. $\frac{1}{7}$
3. 7
4. Ten Thousands.
5. $\frac{3}{10}$
6. 38
7. 2
8. 0

3
1. 8
2. 8×13
3. 203,579
4. 5
5. <
6. $\frac{10}{11}$
7. 36

4
1. The elapsed time = 2 hours and 25 minutes.
2. The order is : 6×10 , 5×15 , 9×12 , $2 \times 7 \times 8$
3. The fraction of left toys $= \frac{8}{8} - \frac{3}{8} = \frac{5}{8}$
4. a. $7 \times 3 = 21$
   $3 \times 7 = 21$
   $21 \div 3 = 7$
   $21 \div 7 = 3$
   b. $5 \times 2 = 10$
   $2 \times 5 = 10$
   $10 \div 5 = 2$
   $10 \div 2 = 5$

Model 3

1
1. 4
2. $\frac{2}{2}$
3. 3
4. 32
5. $\frac{5}{30}$
6. 14
7. $\frac{4}{7}$

2 1. halves. 2. 5 3. 112
4. 8 5. Thousands.
6. 4 7. 9 : 45 A.M.
8. $\frac{4}{9}$

3 1. 9 2. 98,765 3. $\frac{2}{7}$
4. < 5. $\frac{3}{8}$ 6. 30,000
7. 2

4 1. 9 , 35 , 49
2. 6 cm, 2 cm, 2 cm, 6 cm
3. 0, $\frac{3}{10}$, $\frac{6}{10}$, $\frac{8}{10}$, 1
4. The order is : 9,352 , 35,825 , 82,532 , 900,000

Model 4

1 1. 7 2. 3 3. 10
4. < 5. 42 6. 2
7. $\frac{1}{3}$

2 1. 12 2. 72
3. 400,000 , 50,000 , 600 , 90 , 2
4. 144 5. 6 6. $\frac{11}{12}$
7. $\frac{1}{2}$ 8. 30

3 1. 865,310 2. 7,000
3. 123,475 4. 7 5. 509
6. 10 7. 4

4 1. 0, $\frac{1}{3}$, $\frac{1}{2}$, $\frac{5}{6}$, 1 $\frac{8}{8}$
2. The price of each pen
= 49 ÷ 7 = 7 L.E.
3. The order is : 21,000 , 54,620 , 143,800 , 389,677 , 542,620
4.

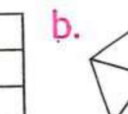
Model 5

1 1. $\frac{10}{20}$ 2. 10 3. 108
4. $\frac{1}{2}$ 5. > 6. $\frac{7}{17}$
7. 6

2 1. 56 2. 3 : 35 P.M.
3. 3 4. 9 5. 9
6. 7 7. 6 8. 7

3 1. 30 2. 50 3. 3
4. 0 5. 18 6. 8
7. 3,003

4 1. a. > b. < c. < d. =
2. a. b.



Shapes may vary

3. The price of banana $= 3 \times 12$
$= 36$ L.E.
What she paid $= 36 + 25 = 61$ L.E.

4. 4,288

Model 6

1
1. fourths. 2. 4 3. 210
4. $\frac{4}{6}$ 5. 20 6. 50
7. $7 \times (10 + 9)$

2
1. 90 2. 0 3. $\frac{13}{20}$
4. 170,486 5. 6 6. $\frac{2}{5}$
7. 7 : 40 P.M. 8. 1

3
1. < 2. 25 3. 0
4. > 5. $\frac{7}{9}$
6. 97,530 7. 7

4
1. What he paid $= 9 \times 17$
$= 153$ L.E.
2. $3 \times 6 = 18$
$6 \times 3 = 18$
$18 \div 3 = 6$
$18 \div 6 = 3$
3. The fraction of what she ate
$= \frac{2}{10} + \frac{4}{10} = \frac{6}{10}$
4. What each friend will get
$= 12 \div 6 = 2$ sweets.

Model 7

1
1. 231,068 2. 81 3. 135
4. 52 5. < 6. $\frac{1}{15}$
7. $\frac{6}{15}$

2
1. 9 2. 4 3. $\frac{5}{9}$
4. 5 5. 36
6. 203,458 7. 90,000 8. 15

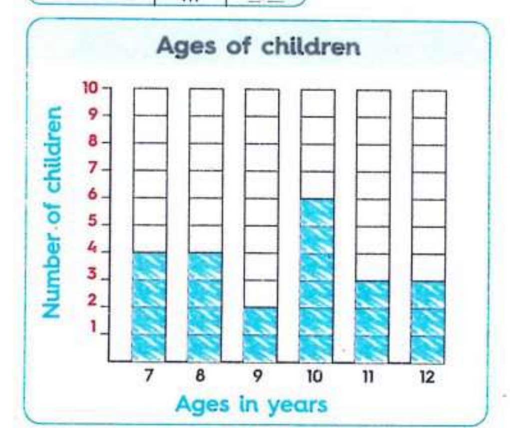
3
1. > 2. 9 3. >
4. $\frac{1}{3}$ 5. 12
6. 50 minutes 7. 5

4
1. The number of marbles
$= (8 \times 4) \times 10 = 32 \times 10$
$= 320$ marbles.

2.

Age of children in music class

Age in years	Tally	Number
7	||||	4
8	||||	4
9	||	2
10	~~||||~~ |	6
11	|||	3
12	|||	3



a. 4 b. 10 c. 13 d. 22

4. The order is : 1 , $\frac{2}{5}$, $\frac{2}{7}$, $\frac{2}{9}$

Model 8

1

1. 114
2. <
3. 84
4. eighths.
5. $\frac{7}{14}$
6. 5
7. 6

2

1. 0
2. $\frac{7}{14}$
3. 21
4. 5 hours and 5 minutes.
5. 7
6. 7
7. 48
8. 304,716

3

1. 500,000
2. >
3. 98,765
4. 0
5. 4
6. 2×4
7. 10

4

1. The length $= 54 \div 6 = 9$ cm.

   The perimeter $= 2 \times (9 + 6)$

   $= 2 \times 15 = 30$ cm.

2. What his brother took

   $= \frac{1}{8} \times 64 = 64 \div 8 = 8$ L.E.

3. $\frac{2}{5} = \frac{6}{15}$

   Both ate the same amount.

4. The order is : 509 , 5,000 + 9 , 13,000 , twenty thousand

Model 9

1

1. $\frac{4}{12}$
2. 49
3. $\frac{2}{9}$
4. 9
5. 38
6. $\frac{8}{18}$
7. $\frac{5}{6}$

2

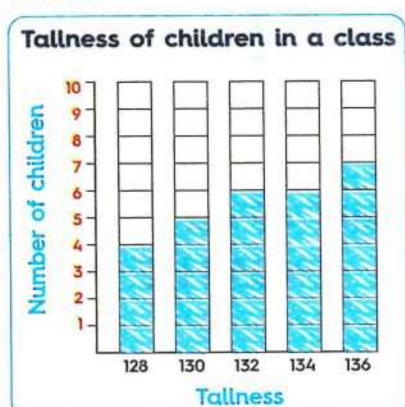
1. fourths.
2. 25
3. Ten Thousands.
4. $\frac{3}{10}$
5. 119
6. 40
7. 9
8. 42

3

1. 8
2. 6
3. 4 : 30
4. 30,459
5. 18,015
6. =
7. 30

4

1.



Tallness of children in a class

Tallness	tallies	Number
128	||||	4
130	~~||||~~	5
132	~~||||~~ |	6
134	~~||||~~ |	6
136	~~||||~~ ||	7

2. Number line: 0 ($\frac{0}{8}$), $\frac{2}{8}$, $\frac{4}{8}$, $\frac{7}{8}$, 1

3. The rest $= 70 - 20 = 50$ L.E.

   The share of Karim $= 50 \div 5$

   $= 10$ L.E.

4. The perimeter

   $= 4 + 4 + 3 + 4 + 1 + 8 = 24$ cm.

Model 10

1

1. 4 2. 1 3. 16

4. $(10 \times 8) + (6 \times 8)$

5. $\frac{2}{3}$ 6. $\frac{8}{9}$

7. 2 hours and 25 minutes

2

1. Thousands. 2. 36

3. $\frac{2}{5}$ 4. 7

5. 4 6. 12 , 12

7. 10 , 4 , 56

8. three hundred five thousand , three hundred five.

3

1. 7 2. 8 3. $>$

4. 7,000 5. 6 6. $\frac{1}{2}$

7. $\frac{8}{9}$

4

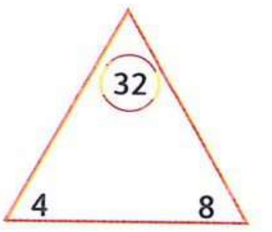
1. a. $>$ b. $<$ c. $=$

2. $4 \times 8 = 32$

$8 \times 4 = 32$

$32 \div 8 = 4$

$32 \div 4 = 8$



3. Number line: 0, $\frac{1}{3}$ ($\frac{2}{6}$), $\frac{1}{2}$, $\frac{3}{4}$, 1 ($\frac{8}{8}$)

4. $8 \div 2 = 4$

Half the area $= 4 \times 5$

$= 20$ square cm.